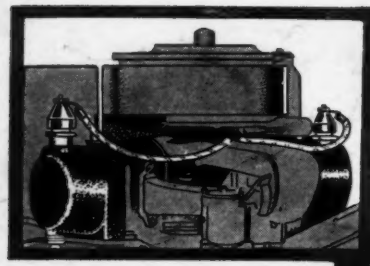
...ch 1930

MOTOR BOATING

35 Cents

...BOOK

The Yachtsmens Magazine



Keep 'em dry and *working* with

G-E *lacquered* IGNITION CABLES AND TEXTOLITE CAPS!

Flying water can't take the fight out of *your* engine's sparks . . . if you use G-E *Lacquered* Ignition Cables with Textolite Caps snugly covering terminals.

Humidity, salt, oil, heat, fumes do not rot insulation on *these* spark plug wires. Current doesn't leak away, leaving you to wonder why your engine falters.

Twelve coats of tough, flexible G-E Lacquer—product of General Electric research—seal every length of G-E Lacquered Ignition Cable. *Stop* insidious current leaks that weaken your engine.

Sleek, hard little Textolite Caps . . . moulded of an insulating compound General Electric has used for years . . . keep terminals dry and free from short circuits.

You can weatherproof any gasoline engine in boat service . . . at trifling cost . . . with G-E *Lacquered* Ignition Cables and Textolite Caps. G-E Merchandise Distributors in every city can supply you. Or use the coupon.

GENERAL ELECTRIC

MERCHANDISE PRODUCTS

Section A-533,
Merchandise Dept., General Electric Company
Bridgeport, Connecticut

Please tell me about G-E Lacquered Ignition Cables and Textolite Caps

Name.....

Address.....

MERCHANDISE DEPARTMENT · GENERAL ELECTRIC COMPANY · BRIDGEPORT, CONNECTICUT

These Electric-starting OUTBOARD RUNABOUTS

Double the Joys of Water Motoring at a Fraction the Cost of Comparable Inboards

HERE is a new species of motor craft. One that safely navigates the shallowest waters and even penetrates winding snag-infested rivers at cruising speeds. A boat that is safer on the open lake—yet more spirited on turns and far more fun to drive.

It is the new Johnson Aquaflyer—a deep-cushioned, roomy outboard motor boat, powered by a Sea-Horse motor, concealed and silenced in the stern. It starts, steers and throttles like a motor car.

It thrusts you through the water at thrilling speed, cutting the blue lake with a ribboned wake of white foam.

With a flourish of spray, you bank the most amazingly sharp turns, for steering is done with the power-driven propeller instead of a trailing rudder.

Skirt the shallow shores to fish among the reeds or up some adventurous river to explore—your propeller shaft will tilt automatically over snags, shoals or sunken logs.

No other runabout will deliver such varied pleasures. Send for a color-illustrated catalog and see if one of the Johnson Aquaflyers isn't exactly what you want—at a fraction of what you would expect to pay.

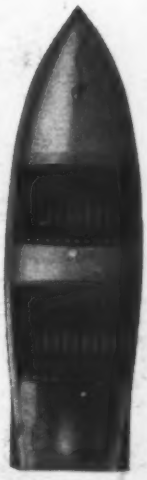
All dealers carry first-aid service parts. Stations for complete service in all parts of the country.

JOHNSON MOTOR CO. 3002 Pershing Rd., Waukegan, Ill.
In Canada: Canadian Johnson Motor Co., Ltd. Peterboro Ont.

JOHNSON AQUA FLYERS powered by Electrically Started SEA-HORSE MOTORS

20-ft. Aquaflyer

All Philippine mahogany, two upholstered cross seats with ample space for chairs, with electric-starting Sea-Horse "33," steering wheel and fittings, $1065 complete. F. O. B. Factory



17½-ft. De Luxe Runabout

Seamless, non-absorbing Sealite construction; hull weighs only 450 pounds. Top speed up to 19 m.p.h. with Sea-Horse "16," $925; up to 25 m.p.h. with Sea-Horse "33," $985. Prices (f. o. b. factory) include electric starting motors.

Largest Manufacturer of Outboard Motors and Matched Units

MoToR BoatinG, March, 1930. Volume XLV, No. 3. Published monthly at 57th Street at Eighth Avenue, New York, U. S. A., by International Magazine Co., Inc. Yearly subscription price: United States, $3.00; Canada, $3.00; Foreign, $4.00. Entered as second-class matter April 15, 1925, at the Post Office at New York, under the act of March 3, 1879. (Printed in U. S. A.)

Of course DEFOE *used* EDWARD SMITH *Paints & Varnishes to finish the "Olive K"*

The "Olive K" was designed by John H. Wells, Inc. and built by the Defoe Boat and Motor Works of Bay City, Michigan, for Mr. C. E. Kettering, Chief Engineer of General Motors Corporation.

That the beautiful "Olive K" is finished with Edward Smith Marine Specialties further evidences a century of unbroken leadership, beautifying and protecting the finest craft that sail the seven seas, including every defender of America's Cup since 1851. For the hull, decks, interior and exterior cabin work, Defoe used Smith products for beauty of finish, durability and an ultimate cost which is low indeed.

EDWARD SMITH & COMPANY

LONG ISLAND CITY, N. Y.

Manufacturers of Marine Paints and Varnishes Since 1827

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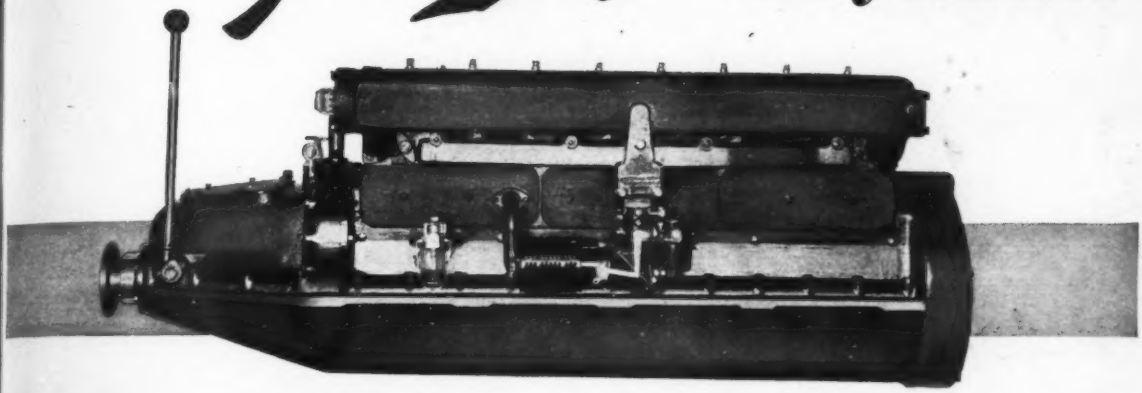
The New Niagara 8 Cylinder



like every other Niagara Motor, carries recommendations to use

DUPLEX
MARINE ENGINE OIL

SPECIFICATIONS, ALL MODELS: Aluminum cylinder block, inserted cylinder sleeve liners, L-head type, silchrome valves 2" diameter, crankshaft 2¾" diameter (weight finished 120 lb.,) oil cooler, oil cleaner, force feed oiling system, positive centrifugal fan-cooled crankcase, aluminum pistons with four rings, aluminum connecting rods.

NIAGARA specifies the use of DUPLEX exclusively

The Niagara line is complete—sturdy—long-lived—4 cylinder models of 12-16 and 25-40 h. p.—led by the splendid new 8 cylinder models, ranging from 130 to 200 h. p.

Study the specifications of these wonderful new Eights—they tell the full story of the skill and care that have gone into their ultra modern design.

MODEL	H. P.	WT.	PRICE
8L 3⅛"x4½"	125-135	869 lb.	$1275.00
8M 4"x4½"	150-155	882 lb.	$1475.00
* 8LS 3⅛"x4½"	165-170	939 lb.	$1775.00
* 8MS 4"x4½"	190-200	952 lb.	$1975.00
** 8LR 3⅛"x4½"	125-135	959 lb.	$1450.00
** 8MR 4"x4½"	150-155	972 lb.	$1650.00

* supercharged
** reduction gear, 4 ratios available

Made by
ENTERPRISE OIL COMPANY
Established 1884
BUFFALO, NEW YORK
Makers also of Kasson Waterproof grease

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Baltimore Boston Chicago Cleveland Detroit Houston Miami New Orleans New York Palm Beach Philadelphia St. Louis
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Vancouver, *Hoffars, Ltd.;* Wilmington (Calif.), *Ets—Hokin & Galvan*

DEALERS WHEREVER BOATS FLOAT

DEPENDABLE

Photograph by Rosenfeld, N.Y.

Whether your motor boat requires the simplest electrical fitting or the newest complete double-ignition system—Auto-Lite offers utmost dependability.

Mariners and manufacturers of marine engines give particular thought to the selection of such important and vital units as the electrical system. They want to be sure that this unit is of highest quality and is dependable. That is why such a large number of motor boats are Auto-Lite equipped.

At every port of importance, you will find efficient Auto-Lite specialists in starting, lighting and ignition. The Electric Auto-Lite Company. Office and Works: Toledo, Ohio . . . . Also Makers of Dé Jon

AUTO-LITE

STARTING - LIGHTING AND IGNITION SYSTEMS

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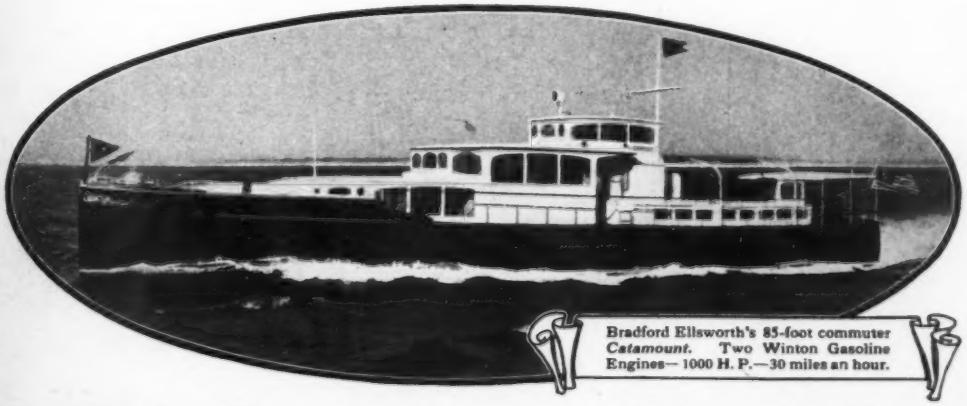
Winton-powered Commuters

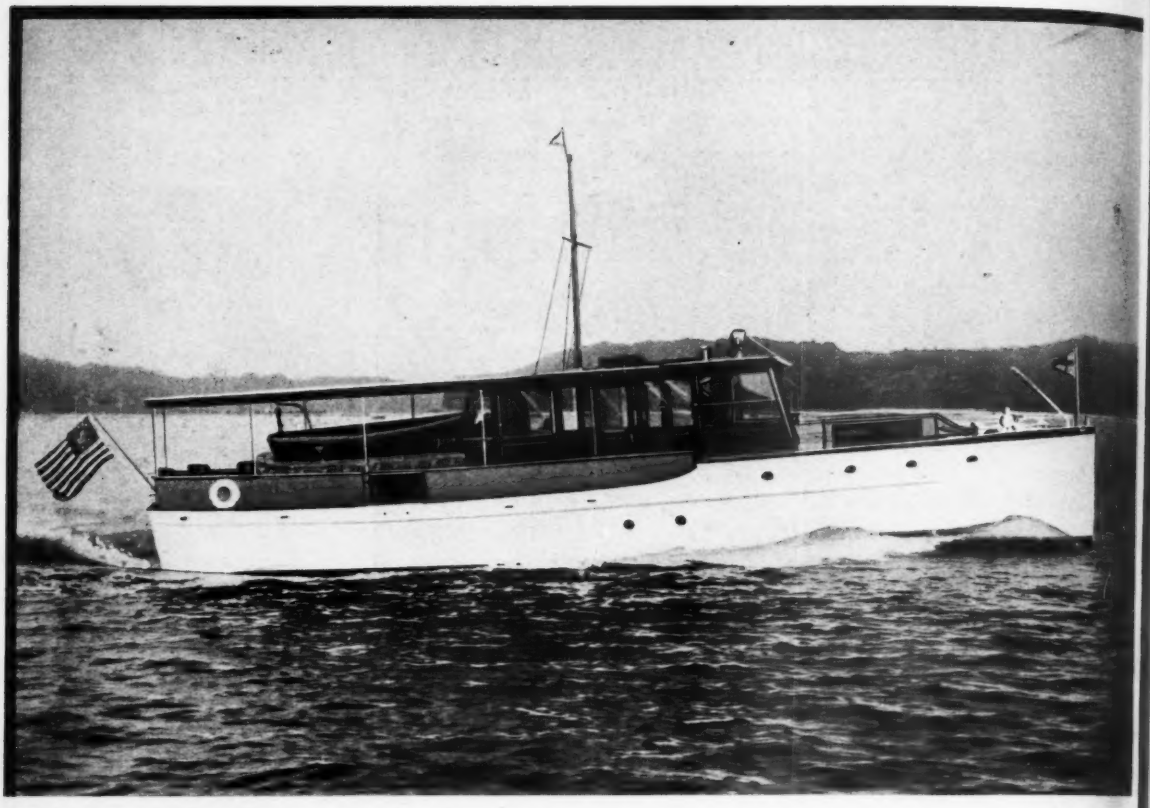
OFF for town, avoiding hectic traffic congestion, many busy executives find a fast, commodious commuter no longer a luxury, but a sound investment in more efficient transportation. The tang of sea air, relaxation, privacy, comfort—the daily run to office or club is a delightful experience. Particularly when your commuter is powered with dependable, powerful Winton Engines—marine power plants supreme.

THE WINTON ENGINE COMPANY, Cleveland, Ohio, U. S. A.



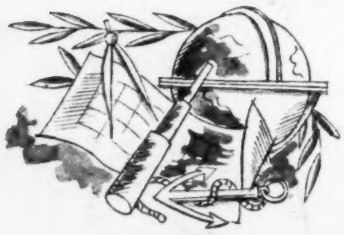
Bradford Ellsworth's 85-foot commuter *Catamount*. Two Winton Gasoline Engines—1000 H. P.—30 miles an hour.

WINTON



THE ELCO 50-FOOT MOTOR YACHT

More Than "Eye-Appeal"



VISIT PORT ELCO

You are invited to visit Port Elco, 247 Park Avenue (at 46th Street), New York City, where the entire Elco Fleet is on permanent display. Or, address Dept. MBG, Port Elco, for full particulars and descriptive literature. (Plant and Marine Basin at Bayonne, N. J.)

ELCO CRUISERS ARE ALSO DISPLAYED, SOLD AND SERVICED BY

Port Elco of Boston, State & Broad Sts., Boston, Mass.

Washington Motor Boat Sales Agency, 1344 Connecticut Ave., Washington, D. C.
Ludington Aircraft, Inc., Atlantic Building, Philadelphia, Pa.
Yacht and Motor Sales Corp., Wilmington, Calif.
Eastern Marine & Yacht Co., 354 Howard Ave., Bridgeport, Conn.
Roy M. Brewster, Bay Shore, Long Island, N. Y.
W. J. H. Dyer, East Greenwich, R. I.
L. O. Blachford, Miami, Florida.
Frank D. Homan, Amityville, Long Island.

The strong and simple lines of Elco Cruisers express the finest of marine taste—and, even more important—the soundest of marine architecture. . . . For, in their design, fast, rakish lines are not obtained at the sacrifice of the practical features that are so essential to a cruiser. . . . It is a simple matter for an artist to design a handsome cruiser. It is an entirely different thing to achieve smart appearance and still retain the utmost efficiency of deck arrangement—retain convenience for the helmsman, high visibility for the passengers, easy accessibility for the motor, practicability for fishing and deck activities—all of these, furthermore, without cramping the living quarters below decks in any way. . . . Look at an Elco Cruiser. Its beauty is apparent. Behind that beauty lie the ingenuity and practical experience of 37 years of boat construction—knowledge that is applied to give each Elco roominess, comfort and usefulness far beyond the generally accepted limitations of size.

THE ELCO FLEET

TWENTY-SEVEN FOOT MARINETTE	$3475
THIRTY FOOT VEEDETTE	$5750
THIRTY-FIVE FOOT CRUISETTE	$7750
THIRTY-EIGHT FOOT CRUISER	$11,850
FORTY-TWO FOOT CRUISER	$17,500
FIFTY FOOT MOTOR YACHT	$26,500

(Those wishing to purchase Elco Cruisers out of income may distribute payments over one year.)

Elco

THE WATER-MARK OF QUALITY

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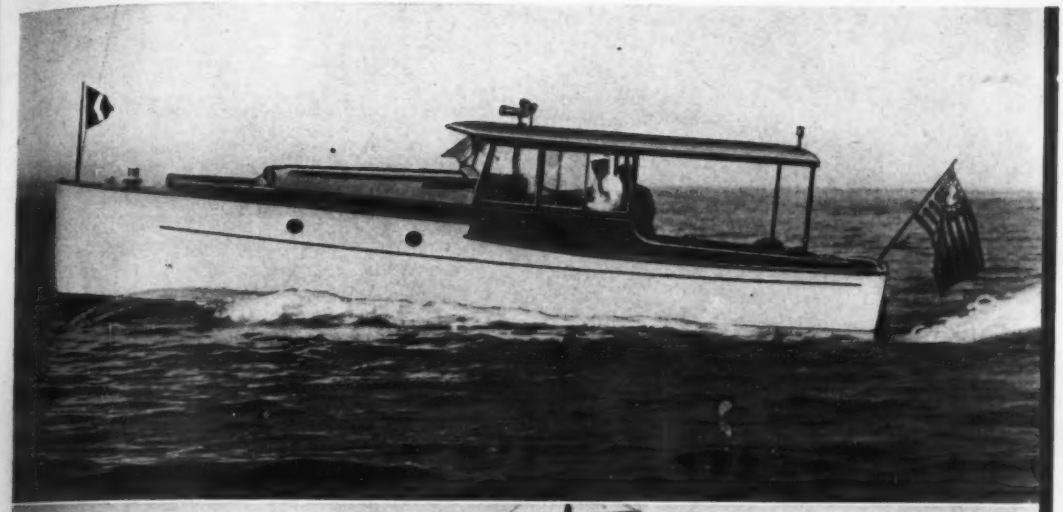


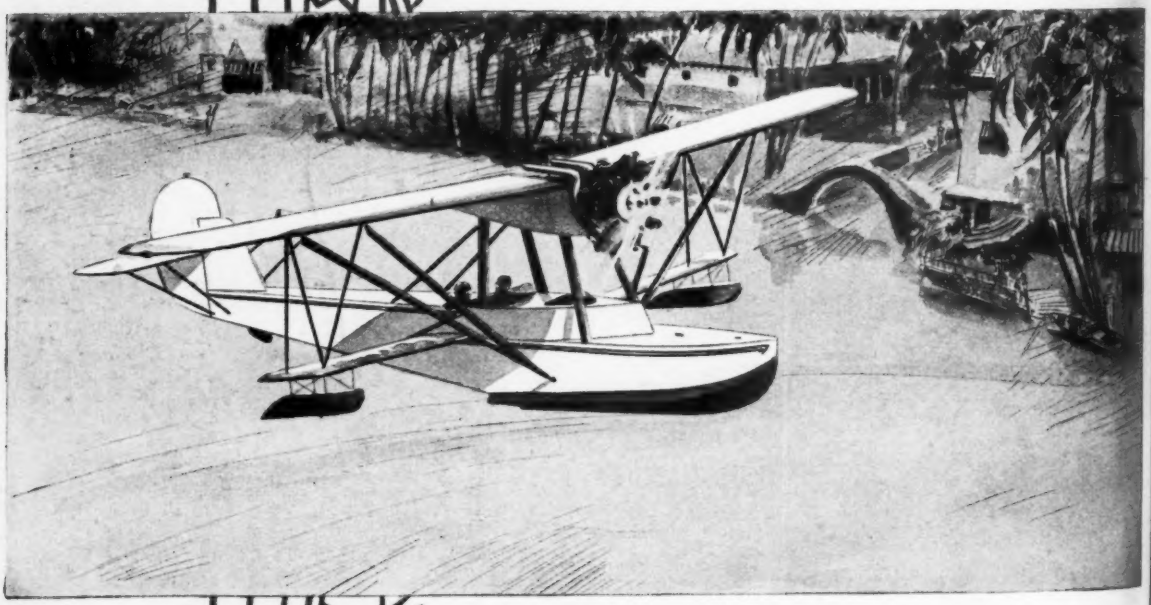
CRUISERS

At top—The Elco 30-foot Veedette
Center—The Elco 42-foot Cruiser
Below—The Elco 38-foot Cruiser

the sport of speedboating . . . and the thrill of flying!

The Eastman Flying Yacht—fast as a speedboat on the water, maneuverable as a light plane in the air—makes possible the combined enjoyment of two great, thrilling sports. "Yachting" in the Eastman is the newest recreation of sportsmen—a pleasurable diversion that is without comparison. ¶ Trim and clean and graceful of line, the Eastman responds so readily to the controls that flying it is really play—handling the wheel is simple. Taking off is unbelievably easy—and landing simplicity itself as only one point of contact is necessary. ¶ In the spacious cockpits of the Eastman, three or four—according to fuel loading—can be comfortably accommodated. Even when fully loaded the Eastman Yacht leaves the water in 8 to 12 seconds; climbs 900 to 1000 feet per minute; cruises at 85 m.p.h.—110 open throttle; and has a radius of over 300 miles. ¶ The "Yacht" is popularly priced at $9595. Write for complete information about this smart, trig craft. Dealers interested in adding the Eastman to speed boat lines are invited to get full particulars.

THE EASTMAN FLYING YACHT



DETROIT AIRCRAFT

UNION TRUST BUILDING, DETROIT

CHANIN BLDG., NEW YORK :: ROOSEVELT BLDG., LOS ANGELES

Eastman Aircraft Corporation
Ryan Aircraft Corporation
Lockheed Aircraft Corporation
Aircraft Parts Company, Inc.
Parks Air College, Incorporated
Parks Aircraft Corporation
Blackburn Aircraft Corporation
Aircraft Development Corp.
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Gliders, Incorporated
Detroit Aircraft Export Corp.

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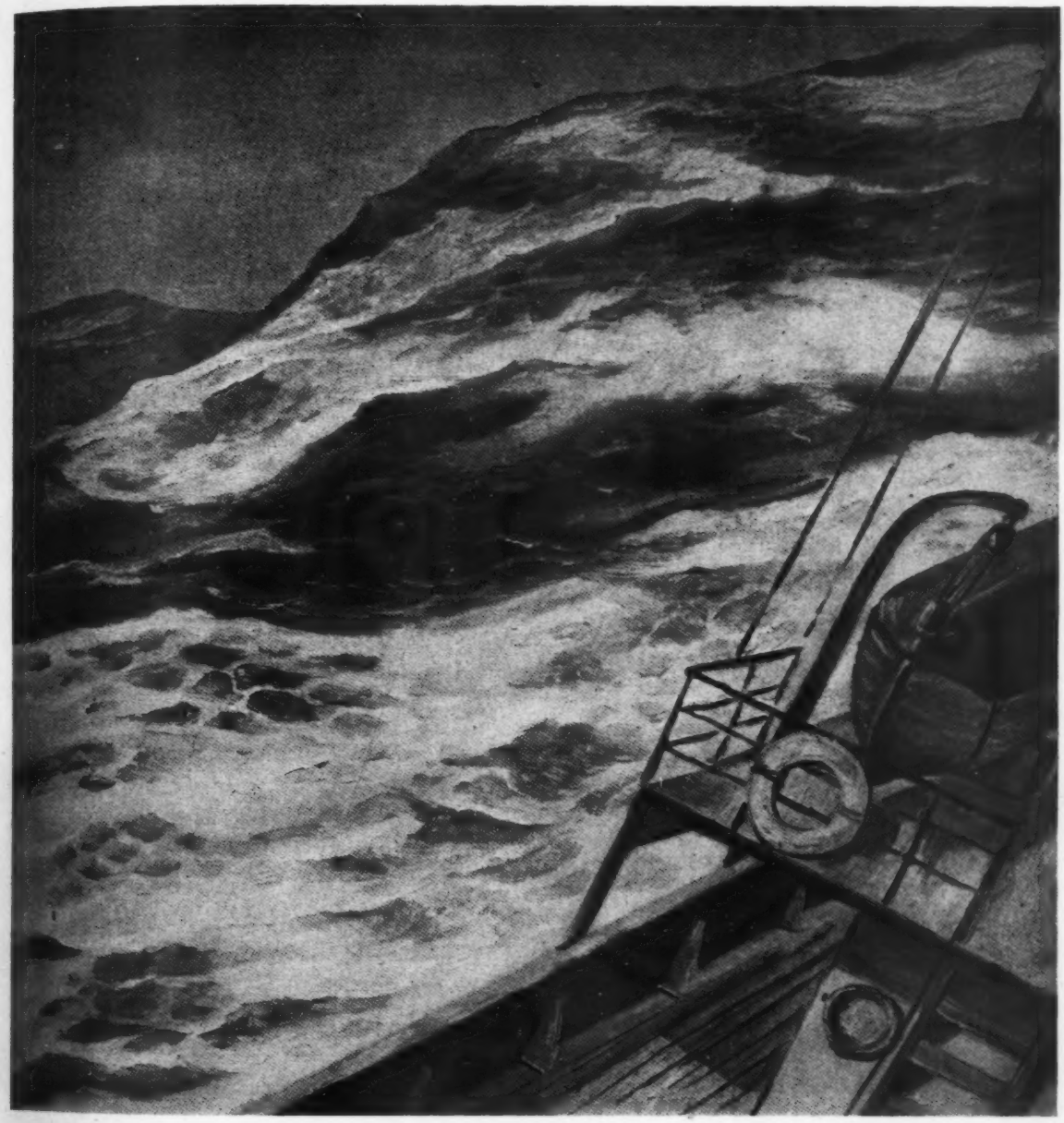
WHEN THE SEAS RUN HIGH



WHEN you are far from port . . . and the barometer drops to 29 . . . and a gale lashes the sea into a raging fury . . . *then* you will be doubly glad that your boat is powered with a Bessemer engine! With a Bessemer diesel power plant you have the quiet smoothness of vibrationless power plus the stamina and reserve of power that never falters, never fails, in the emergency . . . . . .

BESSEMER
DIESEL MARINE ENGINES

THE COOPER-BESSEMER CORPORATION
General Diesel Sales Offices
25 West 43rd St., Suite 301, New York, N. Y.
Plants: Grove City, Pa.; Mt. Vernon, Ohio
Special Yacht Representative
Earl H. Croft, Inc., 25 West 43rd St., New York, N. Y.

CRUISING ELEGANCE

WITH COMMUTING SPEEDS

In 39 " 40 " and 45 foot Models

Robinson Seagull V-bottom cruisers are built with broad underbottom lines to cushion shock and provide perfect stability and maneuvering ease in any kind of sea or weather. A keen promise of speed lurks in their distinguished and rakish lines. From their flashing cut-waters to their trimly turned, double planked transoms each one of these genuine mahogany Seagull models presents an irresistible invitation to go a-venturing... test their unrivaled seagoing capacities... glory in the exultant spirit of open water and plenty of speed. Why not accept the challenge offered by any one of these handsome hulls for sea-free thrills and healthy pleasure afloat? Ride with us! You'll find the gallant poise of these husky boats without a parallel—their unique appointments and cruising conveniences without a peer. Speeds from 25 to 35 miles per hour in single or twin screw installations. Full delivery details and a beautifully illustrated catalog with prices mailed on request.

ROBINSON
Seagull
CRUISERS

ROBINSON
MARINE CONSTRUCTION CO.
BENTON HARBOR MICHIGAN

New York Representative: S. CLYDE KYLE, 1775 Broadway
San Francisco, Calif.: S. CLYDE KYLE, Rialto Building

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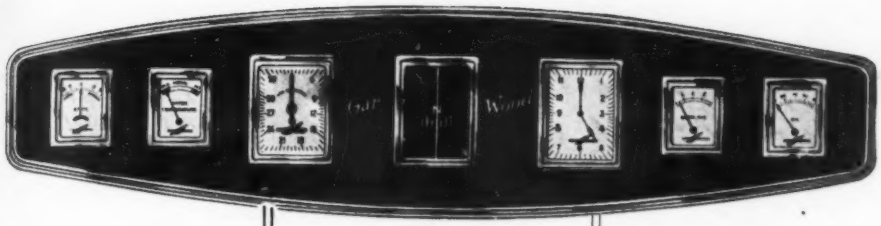

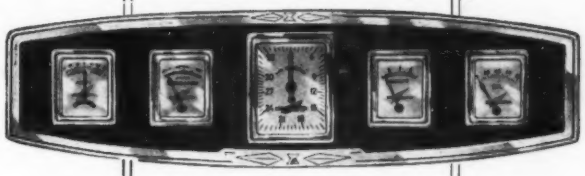

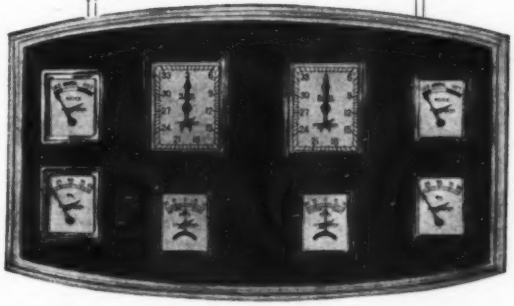

Outboard Tachometer

Easily readable large dial with heavy plate cover glass and polished water-proof case. Special mounting plate for attachment to dash—permits easy adjustment to proper reading angle and removal of tachometer when not in use. Special right-angle type ball bearing motor attachment. Exclusive feature—six ft. braided bronze flexible tubing with special process music wire cable.

The New Vogue

Consolidated Instruments on Consolidated panels are the triumph of the present season. They have become the observed of all observers.

Equipped with instruments of steady and reliable and precise operation, set within panels of unique and dignified ornamentation. Consolidated is the new vogue in Marine equipment beyond compare, they add a new choice and a new value to either gay runabout or the stately cruiser. If your boat has any other than a Consolidated instrument panel at least one point of careful selection of fittings has been neglected.

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S. CLYDE KYLE

Metropolitan New York Representative for

ROBINSON *Seagull* CRUISERS

39 Foot Seagull Sport Sedan

America's
ULTRA-MODERN
Mahogany
MOTOR CRAFT

45 Foot Twin-Screw Seagull Custom Commuter—Single and Double Cabin Models

40-Foot Seagull Speed Cruiser

39 Foot Sedan Cruiser

Robinson Seagulls are particularly designed for the suburban yachtsman who desires the ultimate in a craft for commuting to and from the city swiftly and comfortably. Furthermore, Robinson Seagulls are complete with every essential convenience for either day or over-night cruising with sleeping accommodations for up to eight persons on the custom-built 45-foot double cabin model. Speed range 32 to 36 m. p. h.

Reservations for spring delivery on limited number of Robinson Seagulls are now being accepted. Write today for catalogue.

S. CLYDE KYLE

Formerly National Sales Director of A. C. F. Cruisers

GENERAL MOTORS BUILDING · 1775 BROADWAY
NEW YORK, N. Y.

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Astounding Value at $14,950

Delivered in the water New York

KYLE "43"

Take the wheel of a KYLE "43" and enjoy the greatest of all pleasure craft in its price class... Produced of selected materials in the finest manner by long skilled marine artisans... Embodying the ideas of hundreds of practical yachtsmen, the KYLE "43" is dedicated to a lifetime of unparalleled yachting ecstacy... Sleeps eight... Twin screw power plant. Speeds 17 to 25 m.p.h. depending on power plant selected.

Write today for full particulars.

To avoid disappointment on delivery make your reservation now

Also Thirty-Four, Forty-Seven and Fifty Foot Cruisers

S. Clyde Kyle

Formerly National Sales Director of A. C. F. Cruisers

GENERAL MOTORS BUILDING · 1775 BROADWAY · NEW YORK, N. Y.

BOSTON · CHICAGO · CLEVELAND · DETROIT · LOS ANGELES · SAN FRANCISCO

Distributors of Robinson Seagull Cruisers in Metropolitan New York

SEA LYON

SIGNIFICANT

SEA LYON comment runs as evenly as a Sea Lyon runabout. Cross currents of dispute, dissension, discussion, never even touch a Sea Lyon.

Everywhere—universally—Sea Lyon's perfect performance—Sea Lyon's complete supremacy—are consistently accepted facts.

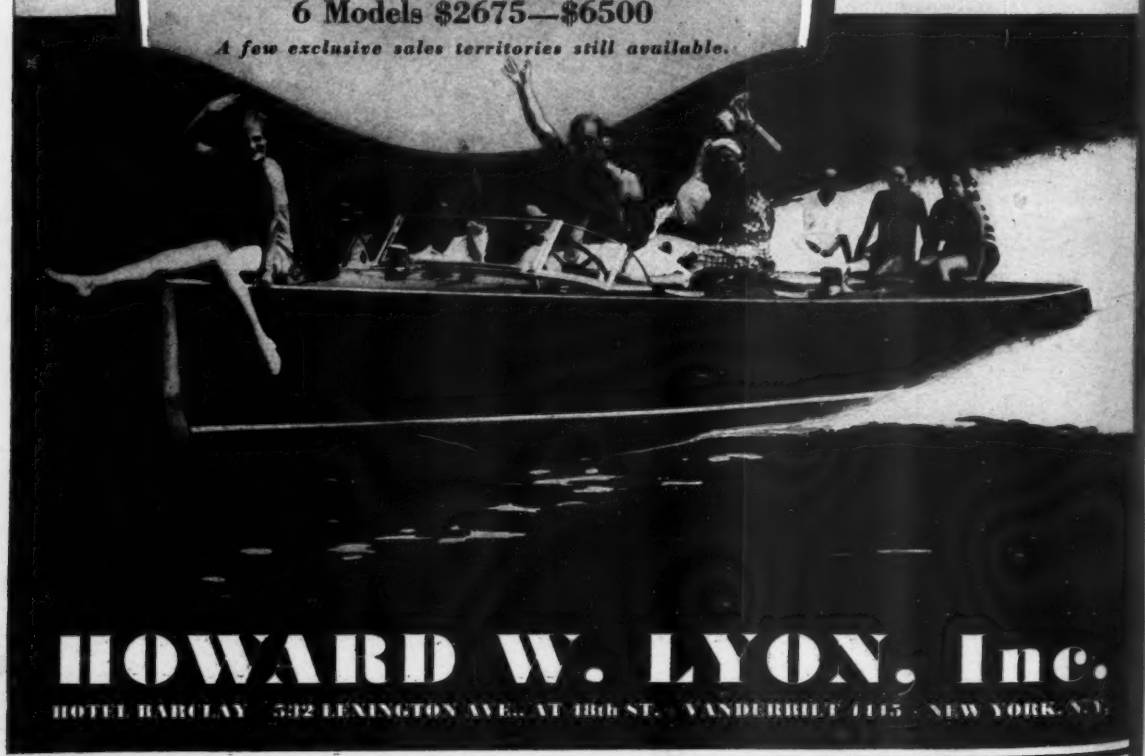
and yet

The delivered prices of Sea Lyons are actually lower than any runabouts of similar size and power.

You will find how this is possible by writing for "Our Vanity Book" and the new Sea Lyon catalog.

6 Models $2675—$6500

A few exclusive sales territories still available.



HOWARD W. LYON, Inc.

HOTEL BARCLAY · 532 LEXINGTON AVE., AT 48th ST. · VANDERBILT 4115 · NEW YORK, N. Y.

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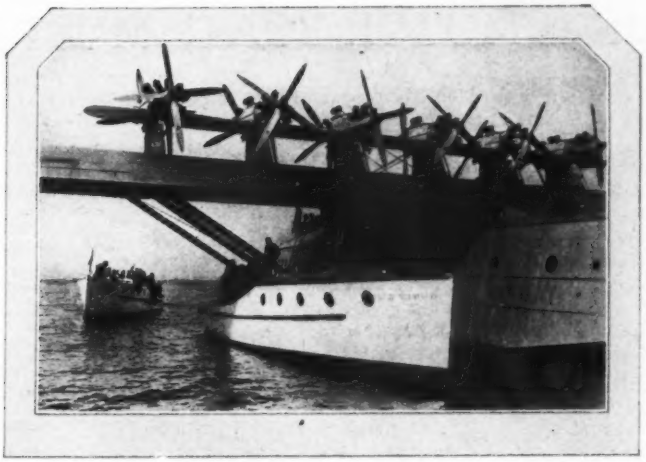

Several large motor boats were called on to carry a record load of 169 passengers to the giant Dornier flying boat DO-X for its initial trial in Switzerland

MOTOR BOATING

FIFTY-SEVENTH STREET
AT EIGHTH AVENUE
NEW YORK, N. Y.

MARCH, 1930

Vol. XLV, No. 3

Edited by

CHARLES F. CHAPMAN

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LAWS WHICH MOTOR BOATS MUST OBSERVE

AN easy way in which to check over one's knowledge of the national motor boat laws, perhaps, is to touch upon the regulations in the chronological order in which they have been enacted by the various Congresses of the United States. If complete omission is made of such of the laws as no longer are in force, the review will be found to be a thorough summary of the obligations which the motor boat owner of today is bound to assume in the operation of his craft on navigable waters of the United States.

The first of the still enforced regulations which have been enacted by our national Congress to bring about the federal control of motor boats which are employed on navigable waters has to do with the documentation, or licensing, of the larger craft. Under this law, all pleasure motor boats which are sixteen gross tons or over are required to be documented by the national government. Furthermore, those motor boats which are engaged on navigable waters in either trade or the carrying of passengers for hire are required to be documented if they are five (5) net tons or over in measurement.

The document itself, of course, is nothing more than a license which permits these larger motor-driven craft to be operated on navigable waters of the United States. At the same time, the document serves to identify these vessels with the government authorities. To this end, each of the documented vessels is required to have her name and hailing port painted upon or attached to certain parts of the hull in a designated fashion. For the same purpose, an official number is assigned to each of these craft and that number must be carved or marked in permanent fashion on the main beam of the vessel. In the same place and in the same prescribed manner, the tonnage measurement, too, is required to be marked on each of the motor boats that are large enough to necessitate documentation.

The application for the document in all cases must be made to the collector of customs of the district in which the craft is to be licensed. At the time of application, official record is made of all measurements and pertinent data concerning the vessel and that information is filed away for future reference. Government officers, moreover, measure each vessel in detail before the document is issued to guarantee that the license be used only on the craft to which it is granted.

The name of the master of each of these documented vessels, who may or may not be the owner of the craft, is required to be entered upon the license and thereafter the vessel may never be operated on navigable waters unless the named master is on board. Provision, however, is made for the speedy procurement of a change in the master as well as for the naming of alternate masters. Once each year the document must be presented at a customhouse for renewal and, upon selling a documented vessel or otherwise surrendering his possession of her, the owner is required to return the license to the customhouse authorities.

The next step which the federal government took in the formation of its present control of motor boats is incorporated in an Act of Congress which was approved on June 7, 1897. That act, which of course is strictly enforced to this day, requires that all motor boats which are operated on navigable waters carry two copies of the United States Pilot Rules. These Rules are published in the form of large placards and small booklets both of which are distributed free by the government officers. The larger motor boats are required to carry copies of the placard form while the booklet form is designated for use on the smaller types of motor-driven craft.

The third of the major pieces of federal legislation which affect the operation of motor boats was placed on the federal statute books and approved by Congress on June 9, 1910. This probably is the most important of all the national motor boat laws and commonly is known as the "equipment law." Under this Act of Congress, all motor boats which are employed on navigable waters are divided into three distinct groups. The formation of these groups takes into consideration neither the style, type or any other individual characteristic of motor boats except their LENGTH. The three groups are distinguished from one another solely by the lengths of the craft which go to make them up.

Thus, all motor-driven vessels which are less than twenty-six (26) feet in length are placed in group one. Group two is formed of all motor boats which are twenty-six (26) or over but less than forty (40) feet in length. In its turn, group three consists of all motor-driven craft which are forty (40) or more feet in length but not more than sixty-five (65) feet long. The law then requires each motor boat that is operated on navigable waters to carry the designated minimum amount of equipment which is prescribed for motor boats in the group to which she belongs by virtue of her length. The specific requirements placed upon motor boats in each of the three groups are as follows:

Motor boats in group one are required to carry

1. A mouth whistle or other sound-producing mechanical appliance capable of producing a blast which lasts two seconds or more in duration and which can be heard for a distance of at least one-half of one mile.
2. Sufficient approved life-saving devices to accommodate all on board the craft, including all babies and children.
3. Approved means for extinguishing burning gasoline.
4. When operated between the hours of sunset and sunrise,
   a. A white light aft to show all around the horizon.
   b. A combination of red-and-green lanterns in the vessel, showing green to starboard and red to port.

Motor boats in groups two and three are required to carry

1. A whistle or other sound-producing appliance of the type described above.
2. A fog horn.
3. A bell.
4. Sufficient approved life-saving devices to accommodate all on board the craft.
5. Approved means for extinguishing burning gasoline.
6. When operated between the hours of sunset and sunrise,
   a. A white light aft to show all around the horizon.
   b. A white light in the fore part of the vessel.
   c. A green light to starboard.
   d. A red light to port.

During the world war, the federal authorities found it advisable to prescribe some form of identification for the thousands of motor boats which were in operation on navigable waters but which were too small in tonnage to warrant documentation. As a result, there was passed and approved by Congress on June 7, 1918, an act, entitled "To require numbering and recording of undocumented vessels." So advantageous did the law prove in aiding the authorities to keep a constant check on the smaller craft and their owners, that the law has been retained since that time and it promises to remain a permanent part of the federal regulations.

Under the terms of the act, all motor boats which are operated on navigable waters and which are too small to justify documentation are required to be registered with the authorities. To each of these vessels an official number is assigned and that number must be painted upon or attached to each bow of the craft in a prescribed manner. The application for the number must be made in each case to the collector of customs of the district in which the owner of the boat resides. Thereafter,

(*Continued on page* 84)

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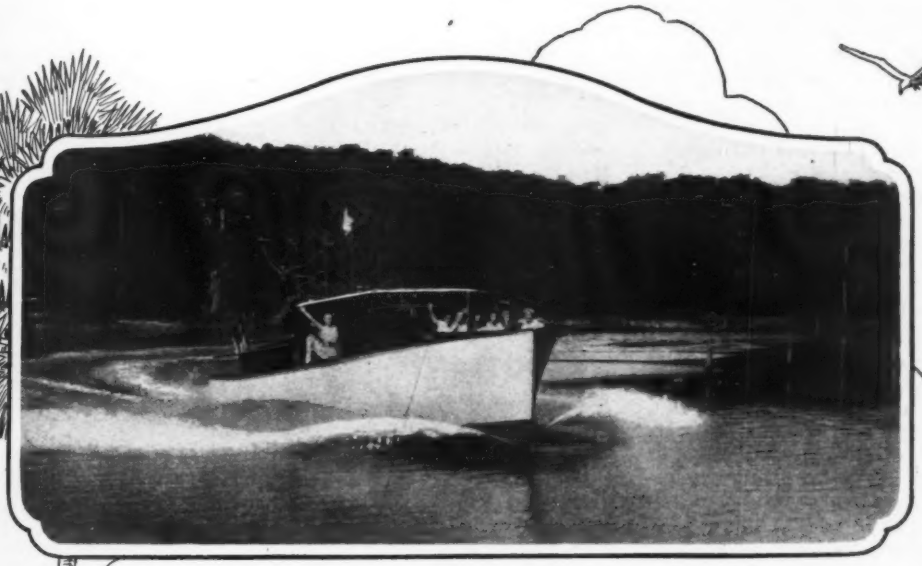

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THE LURE OF THE CHART

AS there are degrees of ignorance so are there degrees of scorn, and I reach the heights of the latter when anyone plumbs the depths of the former—and calls a chart a map. What if the dictionary does define a map as a chart and a chart as a map? That only shows what pedagogic dry-as-dusts the lexicographers are.

A map is something you abhor at school. Later on, you see it included in a timetable, distorting commonwealths to make a railroad route look short and straight. At other times you come across it in a motor touring book, arbitrarily cut into squares to fit the dimensions of a page, arousing in you the utmost feeling of helplessness and loathing.

But a chart is something to conjure with. You rarely meet it in your salad days. It comes to you in the ripeness of intelligence when the insipid fruits of the shore have been discarded for the sparkling exhilaration of the sea. You see it first as a thing of mystery, and your imagination is piqued. What is the meaning of the hieroglyphics—anchors, ships, stars, and whirligigs? What is the occult significance of such legends as *"bu. M., fn. spk. S?"* What, in the name of Euclid and the mathematicians of all time, can be the import

$$\frac{0}{50}$$

of such a fraction as —? Here, certainly, is a closed book that you must open at any delightful expenditure of time and thought.

But the fascination of the chart grows with acquaintance. It is more than a treasury of knowledge. It is a living panorama of the sea's floor, its islands, its shore, its harbors, and the maritime cities. And when you are cruising the chart lures you on to new conquests and reawakens old memories.

Persons who enjoy studying masterpieces on the walls of art galleries do not necessarily take pleasure in reading descriptions of them. I shall not attempt to explain the chart as you will find it explained in nautical publications. Let it suffice that a coastwise chart gives you at a glance the depths of water, the quality of the bottom, the contour of the shore line, the location and characteristics of aids to navigation, and a few hundred other things.

If you are still unconvinced that a chart is different from a map and ask, "Very well, but why should I be interested in the depth and the character of the bottom?" I must give you an illustration. Suppose you are sailing or motor boating for the first time along a stretch of coast and fog closes down, blotting out sea and land. You don't know where you are, but you know very well where you would like to be. In desperation you turn to the chart and see the legend *bu. M. fn. spk. S.* Near this cryptic phrase is a figure that may be anything from 2 to 2,000. Call it 5. Other figures surround it.

Taking your sounding lead and stuffing the aperture in its end with tallow or engine grease, (called arming the lead) you drop it over the side and haul it up by the line when it has touched bottom. If your boat happens to be where I hope it is for the sake of this illustration you will find that the leadline has been wet up to 5 fathoms, and that, adhering to the arming in the lead, is a small quantity of *blue Mud, fine speckled Sand.* This one sounding may not tell you where you are with respect to the nearest harbor, but a series of soundings on a given compass course will—and in a short time you will be where you have wished you were.

By way of contrast, take the finest road map that was ever made. Lose yourself in lonely country in impenetrable fog. Drop a lead over the side of your car once or a dozen times and see whether it shows you where you are. As I say, maps are intended to annoy school children.

When you are cruising in strange waters the chart has a cumulative interest that can be likened only to the progressive excitement of an emotional melodrama. At the moment of buying the chart it has merely an academic appeal. You glance at it to be sure that it is corrected to the latest date, and then you roll it up and stuff it away in the cabin of your boat. As the chart to which I have particular reference is one picturing the coast some three hundred miles north, you do not think of it again for two or three days. Then as you work along you unroll it and make a mental note of the principal headlands and harbors. The next day you glance at it again for depths and distances, and as you approach nearer and nearer to the region depicted by it you consult it with greater frequency and more minute care.

Finally you sail on the chart. Let me here interpellate that so closely identified are the sea and the chart that you feel yourself actually to be sailing across the latter. You make a pinprick marking your boat's position—the mark is on the chart and your boat is on the chart. I don't say that it *seems* as if you were on the chart. You positively are there. If you are at all sure of your navigation you feel as if you couldn't be anywhere else.

But now the interest approaches second-act excitement. Little things in the plot that have previously escaped your attention stick out like embossings. Here is a rock with three feet of water over it, there a buoy marking a sunken wreck, beyond it a bar that is awash at low water. I will say this much against the chart—it robs you of the surprise element in cruising. Even before approaching a strange locality you are familiar with it, and now on comparing image with object it is like coming home to childhood scenes. Until—

Something happens. A tree, a rock, some prominent landmark is displaced or mislaid. Your confidence turns to anxiety. The villain in the piece makes ready to strike the heroine. Where the devil is that landmark? The chart must be wrong. Drat it all, charts are always wrong. They play on your credulity, lure you on, and when they get you where they want you they turn traitor. If you had a rope around the neck of all chartmakers you would pull it viciously. Second-act curtain.

But wait. Perhaps you have misread the chart. Remote though the possibility is, it is worth investigating. With arm extended over the compass you get a bearing on some unmistakable object and transfer the bearing to the chart. Hah! You are not where you thought you were, but half a mile to the south'ard. And there is the missing landmark. Unless (you look again) that is it over there. Although it doesn't look much like it.

Meanwhile the boat is moving on, and objects constantly change their angle of relation one to another. Your anxiety increases as you reflect that you may miss your objective or strike a hidden reef. And then the original missing landmark comes into view right where it ought to be, and you regain your lost self-confidence. The chart was right all the time. A wonderful institution, the chart. Final curtain falling on an innocent heroine and a discomfited villain.

Lest I seem to have made light of a serious situation, I must hasten to add that nothing is more vital to a successful cruise than the chart. With it you may tweak the nose of Neptune. Without it you are Columbus sailing unexplored seas, unsustained by the fortitude and imagination of the Great Admiral. So whether you extol the chart or revile it you take precious

(*Continued on page* 74)

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HOW MANY MOTOR BOATS ARE THERE

PROBABLY nobody who is affiliated with the motor boating sport in any capacity or to any degree is ignorant of the phenomenal growth which this great sport has experienced during the past five years. So breathless and so dramatic has been the development of this thrilling form of outdoor recreation during each of the past five years that it seems impossible that there can be any marine sportsman, or confirmed landlubber for that matter, who does not appreciate the present magnitude of the sport and the vastness of the army of those who are its active participants. That much is certain.

But to attempt to keep any accurate estimate of the changing dimensions of the sport is quite a different matter. If all motor-driven craft were required to be registered with one or another of the various authorities, it would be a simple matter, of course, to measure the annual growth of the sport with almost absolute accuracy. Unfortunately, however, motor boats operated upon the non-navigable waters of the country and outboard-propelled vessels which are sixteen feet or less in length are not required to be registered with any authorities in any manner. Hence to try to gauge the development of the sport in terms of the increases in numbers in these classes of motor craft is always liable to result in erroneous conclusions.

On the other hand, all motor boats which are operated upon the navigable waters of the United States, with the exception of the very small group of public vessels and the above described outboard-driven craft, are required to be registered in some manner with the federal government. All these registrable vessels are either documented or numbered by the authorities, according to their tonnage measurements, and the records of them are kept by the national government in such a detailed and up-to-date manner that at the end of each fiscal year a reliable and official announcement can be made as to the exact number of such motor boats in use throughout the country. It is but natural, therefore, that many motor boat enthusiasts have come to look upon the registration lists of these vessels as the only accurate and impersonal means at their disposal for keeping track of the tangible growth of the sport.

The numbered craft especially are regarded commonly as an excellent index of the growth of the sport. These officially numbered vessels include all regular motor boats which are less than sixteen tons in measurement and operated on navigable waters of the United States. Since most of the large, costly yachts in the country measure over sixteen gross tons, these craft of the inordinately wealthy yachtsmen automatically are excluded from classification with the numbered craft. Likewise, the fact that no outboard-propelled vessel which measures sixteen feet or less in length can be granted an official number serves to keep practically all of these diminutive craft out of the group of numbered motor boats.

The ranks of the numbered craft, therefore, are made up almost entirely of the regulation, medium-priced motor boats which veteran yachtsmen generally have come to regard as representing the backbone of the sport. For the most part, it is the owners of these vessels who are the dyed-in-the-wool, life-long yachtsmen. Their numbers are not too small, furthermore, to permit of generalizations as is the case with the owners of documented motor boats. Nor do their ranks change so regularly and include huge numbers of shallow-water sailors as do the ranks of the outboard users. Hence it has become almost axiomatic to make any attempted measurement of the annual growths of the motor boating sport directly in terms of the increases recorded in the ranks of the numbered craft. Incidentally, the way is made ready indirectly for setting up an acceptable mode of estimating the total number of pleasure motor boats in use in the United States as a whole.

Looked at in this light, tabulations just completed by the United States Commissioner of Navigation are interesting and inspiring to all motor boat owners. Simply stated, these latest official compilations show that at the end of the government's fiscal year 1929 the total number of the officially numbered motor boats throughout the country had increased to a new high figure of 236,514 vessels. The increase recorded during the year amounted to 11,736 craft. During the same period, furthermore, the class of documented motor boats increased to a new total of 2,910, the gain for the year amounting to 453 vessels. These figures become particularly interesting when considered in the light of the following factors.

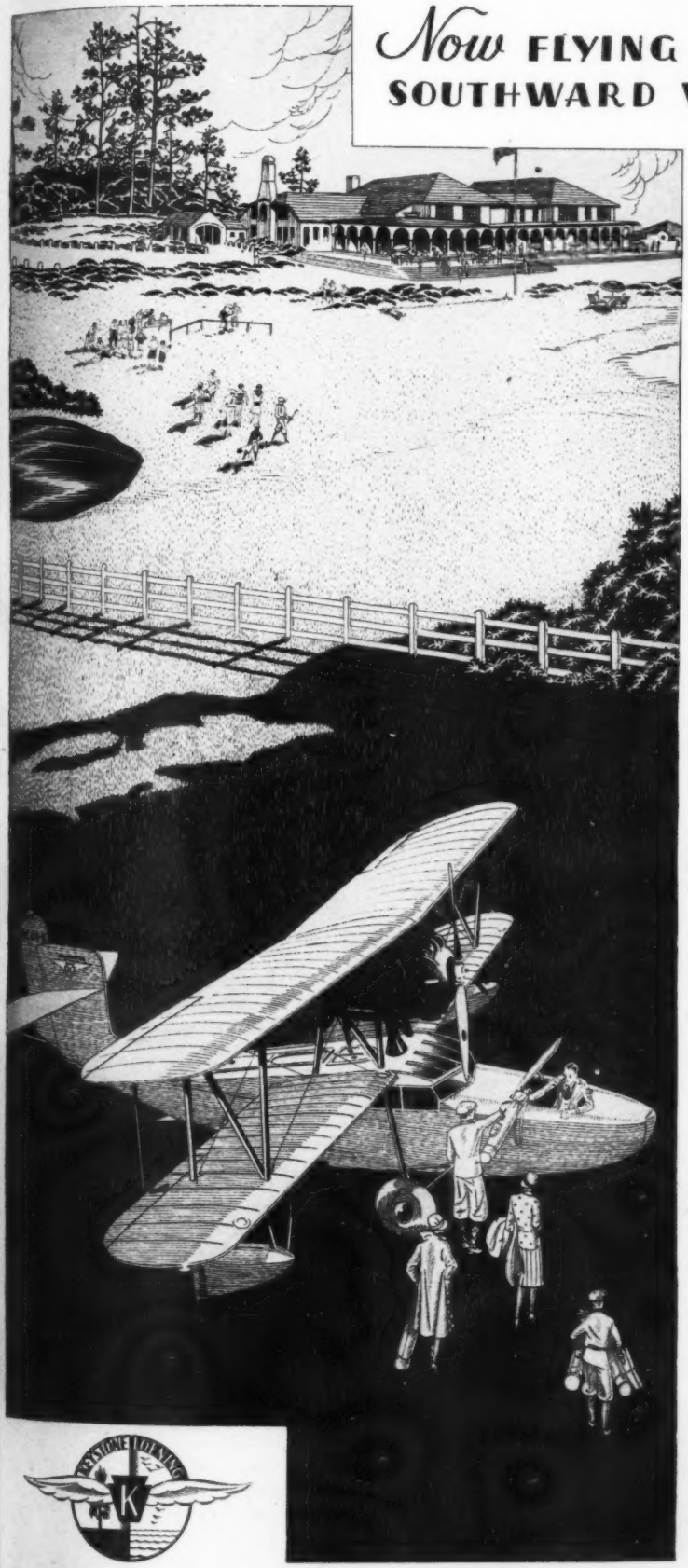
It is a matter of common knowledge that the five years immediately previous to 1929 have all been marked by large increases in the class of numbered motor boats. The average annual increase in craft of this type, in fact, amounted to exactly 11,309 vessels over the five-year period. That figure, therefore, set up during what may rightfully may be labeled a period of unusual growth, has come to be regarded as a sort of red letter mark to be aimed at in succeeding years.

That the increase recorded in numbered craft during the fiscal year 1929 should equal the high-water average set up over a period of five unusual years is a significant achievement under any circumstances. But that the 1929 record should exceed that average by an additional 425 vessels is a disclosure of a most distinctive sort. In the opinion of veteran observers, this one fact is sufficient to establish the year 1929 as another year of tremendous growth for the motor boating sport. For these judges believe firmly that there is a definite and direct correlation between the rates of growth recorded in the class of numbered motor boats and the motor boating sport as a whole. And such evidence as is to be had seems to justify the making of such an assertion.

The increase recorded during the year in the class of documented motor boats, likewise, is of real significance. The gain of 453 vessels achieved during the twelve-month period becomes more than ordinarily notable when it is recalled that this class of motor boats had previously been increasing at an average annual rate of approximately one hundred vessels. Inasmuch as the documented craft are, for the most part, large, magnificent vessels, it has never been expected that they would increase at anything like the rate of increase manifested in the class of numbered craft. As a matter of fact, that the documented craft should increase by approximately one hundred vessels year after year has always been regarded as an entirely satisfactory achievement. The unprecedented increase recorded in this class of motor boats during 1929, therefore, can be interpreted only as meaning that, more than ever before, the unusually wealthy who are able to select any form of recreation they might prefer are turning to motor-driven craft for their major sport.

In an indirect but none the less welcome manner, these official tabulations, made to show the existent totals of documented and numbered motor boats in the country, enable us to get a rather accurate and up-to-date picture of the present dimensions of the entire motor boating sport. This is possible by virtue of the fact that those qualified to judge commonly are agreed that, for every motor boat which is operated upon the navigable waters of the United States and hence required to be registered with the federal authorities, there are somewhere between three and four similar vessels in operation upon the non-navigable waters of the country and, because of that fact, not required to be registered with any authorities.

(Continued on page 76)



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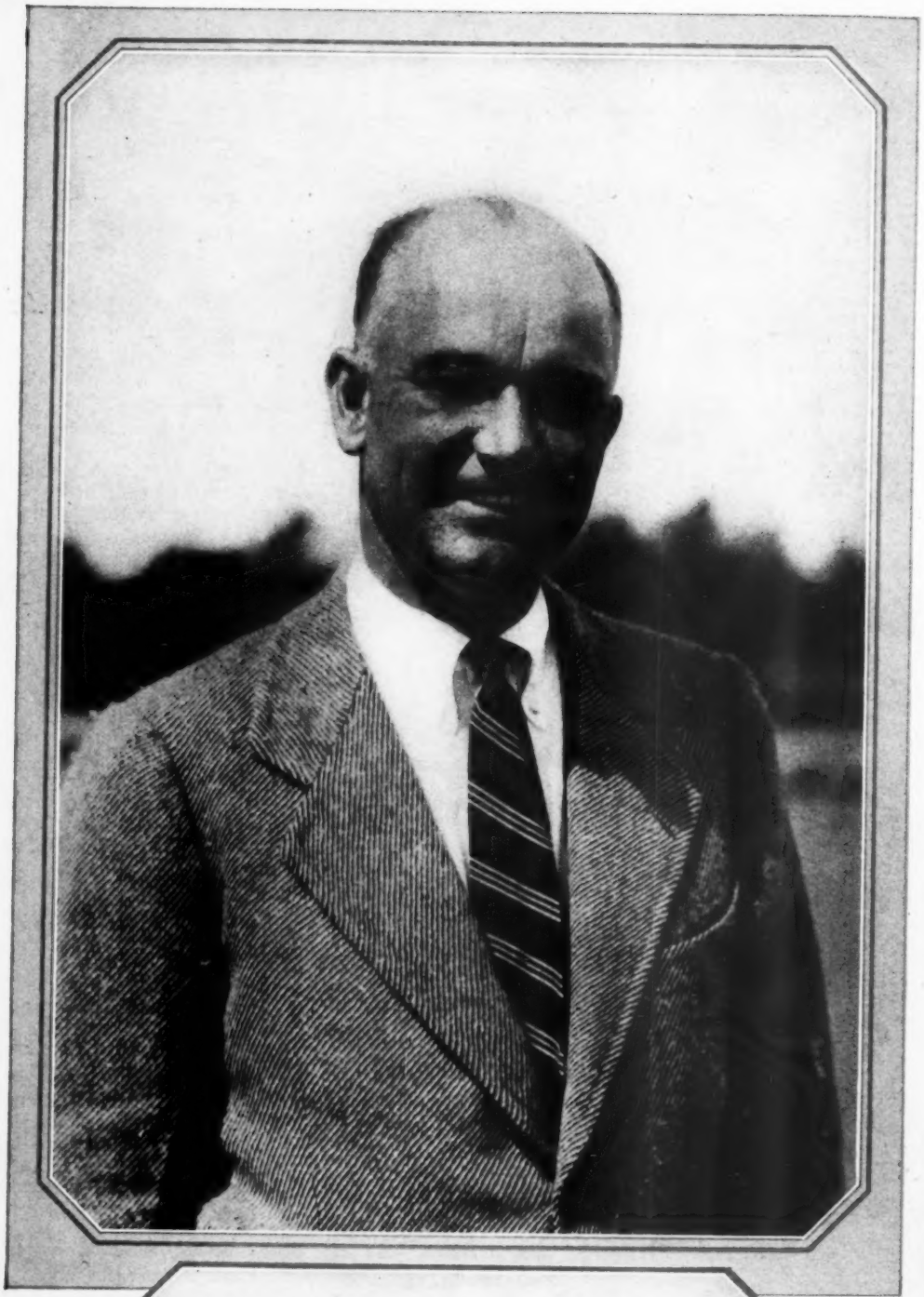
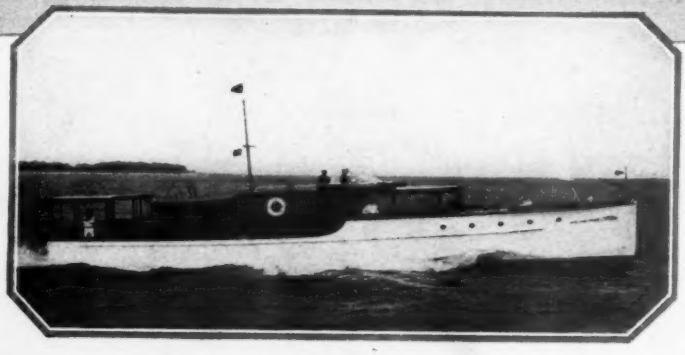


M. Rosenfeld

George Townsend, business man, yachtsman, and Gold Cup winner for two successive years



Sazarac, the fast commuter used by Mr. Townsend for his daily trip to New York

GEORGE H. TOWNSEND YACHTSMAN

FAR ABOVE the hum of motors and the roar of Forty-second Street, at his office in the Graybar Building, a man was reading his morning mail. As he opened one letter bearing an English postmark, there was a mysterious flutter of black, and something resembling a bat flew out over his desk.

"An Englishman's idea of a joke," he said, but his brown eyes smiled—and he turned again to watch the bit of paper soaring across his office like a miniature plane.

Anyone who knows George H. Townsend, founder of the MotoMeter Company and until recently its president, would sense his enjoyment of a real live joke. For into the gravity and the turmoil of business, he has carried the spirit of youth. He is of the rare few who valiantly refuse to grow up.

"Most people take life too seriously," he will say. And he is an admirable illustration of those who don't.

Business executive, the father of a fine young family including—a debutante daughter and a son at Andover—successful racing man and lover of sports, he has carried to middle life this love of fun. An inherent gayety, an ability to meet the world with smiling eyes, sets George H. Townsend apart from other men. In his gracious informality, there is dignity and distinction.

This high-powered executive whose association with the automobile industry has covered seventeen years, is the unusual type of college man who has entered industry.

Of medium height, agile, well-groomed, he conveys the impression of being keenly American. His clothes are well-chosen, but inconspicuous.

This winter day when he granted an interview to a representative of MoToR BoatinG, he was wearing a navy blue suit and a blue tie. In conversation there is evident ready humor, alertness, a mind that works with uncanny quickness. One is conscious of how many thoughts this man can think, while most of us muddle along with one!

"I'm leaving January 21 for a trip around the world," he was saying, "but I'm going to get back for the yachting season."

"Then having circled the globe, you'll be a complete human being?" he was asked.

"A complete human being or a complete wreck," was the ready answer.

"Yachting is your hobby?"

"Yes, I rather think it is," said this man, who has twice won the Gold Cup race while he guided the destinies of the MotoMeter Corporation.

Much as he enjoys racing, he did not defend the cup in 1929, going instead to the Adirondacks with his family.

"I have had but one racing boat," Mr. Townsend explained. "The first year it turned upside down. I got the boat righted and decided I couldn't quit then. The next year it won the Gold Cup race, and the President's Cup in Washington. The following year the same thing happened.

"I've been awful lucky—a sort of flash in the pan," he added.

"Do you like any sports besides boating?" we began. "Golf?"

"Yes."

"Swimming?"

"Nothing to write home about." Then he volunteered, "Shooting and aeroplaning when I don't get caught."

"You mean your wife?"

"Who else catches a man?" he parried, merrily.

(*Continued on page* 110)

Looking down on the fleet anchored below Inwood Hill Park

FOR WE NEVER GO A-SAILING BUT WE TAKE OUR HOUSE ALONG

By JUDY ANNE MAHONEY

MANY of our friends regard us, the Skipper, Mother and myself, as rather rational about most things. They even think Schnapsel Erasmus, our small dachshund, is an exceptionally smart dog. Still, they reason, there must be something queer about us, for any family that would deliberately shut up a comfortable home to suffer the discomforts of a small boat for almost four months a year, certainly can't be quite right.

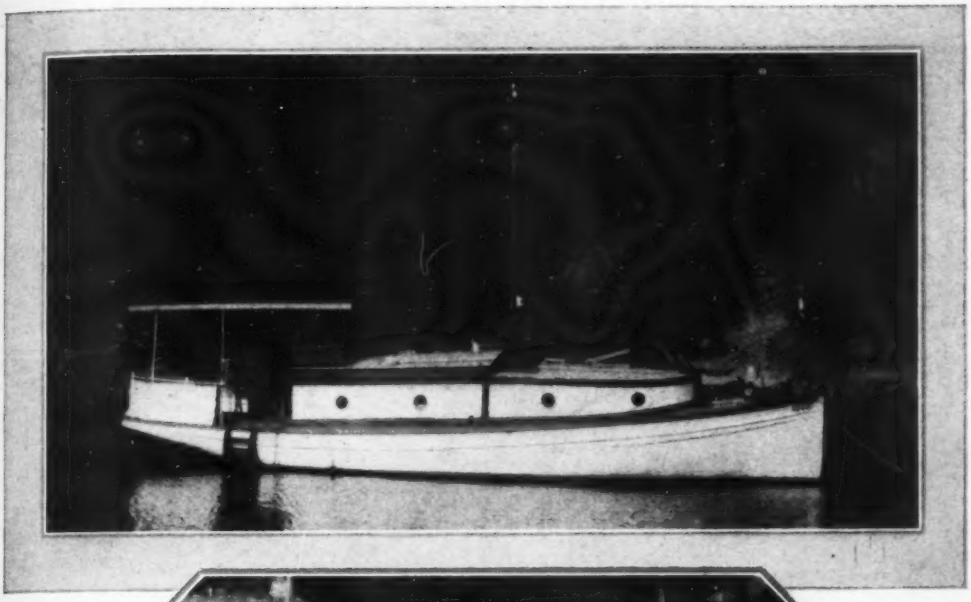
Yet that's just what we've done the past eight years, and we're all set to go again next season. For long ago we figured that up north the time for boating is short at best, and the average man can use his craft only weekends and perhaps a fortnight or so vacation. By living on board we get daily use of our boat, we have an all summer vacation, and no matter where or when we go we have our house along.

Just think for a minute the advantages your own small cruiser offers that you can obtain nowhere else for anything like the same expenditure of time and money. Where within commuting distance of New York (and I am sure the same is true to a certain extent of any large boating center) can a man of moderate means maintain a place where on the hottest day he can be cool and comfortable, where he can live like a hermit or make any number of delightful acquaintances and where boating, bathing and fishing can be had at his front door.

Many people—and boat people too—regard with uplifted eyebrows our enthusiasm for living aboard, declaring that they couldn't possibly manage for more than a weekend. Somehow they seem to suggest that to live so barbarously and to suffer such discomfort would be simply beyond them. And knowing how some of them manage, our great wonder is how they get along at all, for no one could possibly look forward to a summer of sandwiches and coffee faintly flavored with molten wax from paper cups.

As a matter of fact we have a very comfortable and interesting summer, and if you should chance to try it this year, do a little planning ahead—give your boat the same chance you'd give your summer bungalow—and you'll find yourself amply repaid. First make up your mind that your boat can be self sufficient and that you won't go home every time it rains or looks stormy. Pack up everything you feel you can't live without, take the children and the dog and go aboard resolved to forget you have a home on land, with two baths and electric light that burns and burns. Hold out the first week and I'll guarantee you'll be happy all summer.

Camping out may be fun for a while but you'll be a lot more satisfied if your boat is thoroughly and well equipped. If your family consists of more than one, you'll probably find some vigorous disagreement as to what comprises necessary equipment. There are some things which never get settled but that merely adds to the interest. On our own craft, Mother and I both



Tres, herself, safely moored in the Harlem River

The crew enjoy some home made clam chowder

agree the Skipper has too many tools. Mother herself, is a blanket enthusiast and loads up all the storage space with bedding we never use. And if the boat were sinking and they had to lighten the load, the first thing over, assisted by all, would be my tennis racket.

Whether your own boat is big enough to live on depends, I suppose, on the ratio of your family to the size of your boat, but it seems to me that if you can supply comfortable bunks for those who will be aboard all the time, a few places to stow away an occasional guest or two, and an adequate galley, I don't see anything to prevent you from having a dandy summer.

Now there is certainly nothing remarkable about our own cruiser, Tres. She's thirty-six feet long, trunk cabined, and resembles a small but businesslike tug. She has a generous after deck, which serves as a living room, dining room, and is the best sleeping porch in the world. The interior is divided into two cabins; the forward one would, in a really doggy boat, be called the main salon. It contains two wide and spring equipped berths, with storage space for blankets underneath, and a chest of drawers at the head of each bunk. For people who fear the bugbear of dampness, it might be interesting to know that we have to brush the dust from under the berths several times during the season.

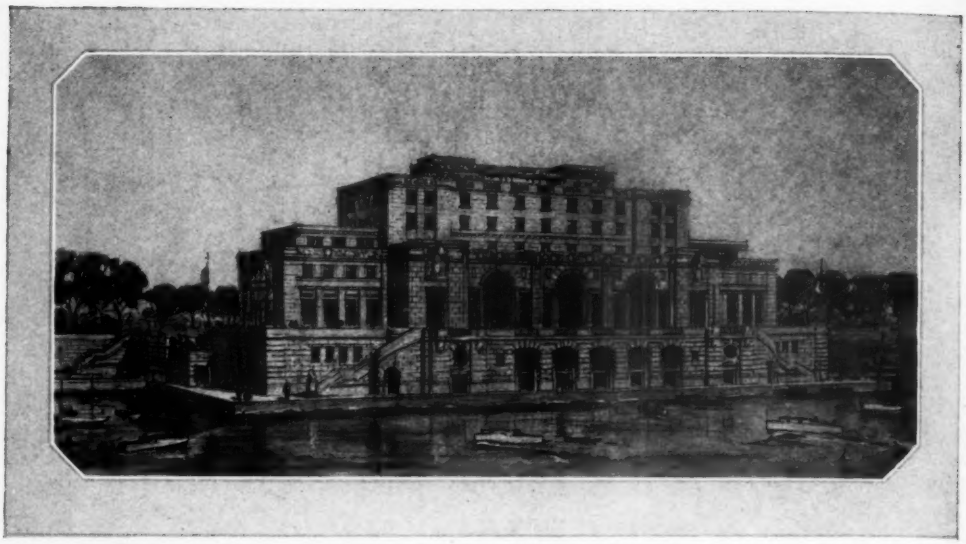
Attached to the forward bulkhead is a book and magazine rack, a concession to the family's weakness for second-hand books and a convenient place for our favorite boating magazine. In front of the forward berth and extending under the front deck is storage space for the gasoline tanks and rope lockers. The rope lockers open into the cabin and feed through the deck as well. I mention this because we found them an unexcelled emergency storage place for ladies hats. The boat builder who will devote some time to a good hide-away for feminine headgear will win a fortune and the appreciation of all small boat owners.

For the rope lockers aren't perfect by any means. In fact we had to give them up entirely for our guests' hats at least, for one day we had aboard that sort of neat and helpful person, who is always putting things away. After concealing the engine crank handle, in a place which took several day's search to disclose it, he went up on the forward deck and fed, unnoticed, about fifty feet of wet and slightly muddy anchor rope on the once-worn hat of a dressy visitor. That, however, is an incident of which we do not ordinarily speak.

On one side of the passage, connecting the front and rear cabins is the clothes closet and on the other side the lavatory. In the clothes closet we have rigged up a pole, extending the entire length, which will hold about twenty-five hangers, some hooks on the side walls, a well ventilated shoe box, and a little careful packing makes it an adequate wardrobe for our not too well dressed family.

In the rear cabin on one side is a berth, which may be opened out to accommodate two people, and the entire other side is given over to the galley. We often look with envy on the prettier, newer, faster boats of our friends and sometimes we're a bit apologetic about old Tres, but there is one part of her we boast unashamed, and that's the galley. We've given it a generous and well deserved share of the boat and two or three people can work in it, without getting too much in each other's way.

In many of the up-to-date (*Continued on page* 68)



The new clubhouse will present an imposing appearance as it is approached from the lake

AMERICA'S FINEST CLUBHOUSE

Chicago Yacht Club Erecting a Magnificent Building at Grant Park on the Shore of Lake Michigan

SHORTLY before Christmas of last year, ground was broken for a splendid two-million-dollar building, which is to be the new home of the Chicago Yacht Club, on the site of the old downtown clubhouse. The present schedule calls for construction to be started about March first, the work to be completed before the close of the year.

When finished, the new clubhouse is to be the finest yacht club in the world. Situated in a commanding position near Grant Park on the shore of Lake Michigan, at the foot of Monroe Street, it will have a frontage of 266 feet and a depth of 150 feet. Its eight floors will provide unequalled facilities for the accommodation of members and guests, including a swimming pool, eighty-three bedrooms with baths, a dining room for 350 persons and a lounging room large enough to provide for the comfort of a similar number. There will be ten private dining rooms, six of them in line and so arranged that they can be made into one big room. Main rooms on the first floor will accommodate 2,000 guests. An underground parking space for automobiles will take care of 150 cars and a protected passageway will be constructed in the form of a tunnel connecting the garage and clubhouse to provide the greatest possible facility of access.

The exterior of this fine structure is to be of marble or Bedford stone and will present an imposing appearance when viewed from either the Grant Park or Lake Michigan side. Nimmons, Carr and Wright, and Burnham Brothers are the architects.

Only four of the eight stories will show from the Grant Park side

The drive and esplanade of Mazatlan which the German residents shared in building

IN THE WAKE OF REVOLUTION

The Pretty Harbor of Mazatlan in Mexico Furnishes a Delightful Setting for a Study of the Recent Uprisings

By JOHN ANSON FORD

Photographs by the Author

FROM Vancouver to Panama there is not another port like Mazatlan, Mexico. Up and down five thousand miles of coast line, travelers, commercial and pleasure, by sea, land and air, look forward to the peace and comfort of this tropical haven. A few months ago, one breathless siesta hour found me seated on the broad veranda of the fascinating seaport's Del Mar hotel, tilted back in a great rocker and gazing through the heavily shadowed arches into the brilliant sunshine of the esplanade and beyond, to the listless glassy water of the Pacific.

It was a setting to stir one's memories of all the tropical yarns one had ever read. A barefoot peon, his pajama costume askew, leaned lazily against his two wheel push cart, loaded with unhusked cocoanuts. Occasionally, galvanized into action by the tropical sun, he would whip out an ugly saber-like knife and deftly slash off the end of a cocoanut. On each of several occasions he performed this feat with such consummate skill that a hole of just the right size was cut through the inner shell of the fruit. Then he would lift the big nut to his lips and tilting back his head, drink long and with evident satisfaction of the cool cocoanut milk.

No sooner had he finally relapsed into day dreaming than an American hove into the picture, and from his natty uniform I judged he was an aviator—a rather unusual sight in Mazatlan.

"Señor," I felt a touch on my elbow and turned to look into the bronzed face of a Mexican drummer who evidently made Mazatlan often. "Señor," he repeated looking at the new arrival. "That ees first flier to bring mail from Los Angeles to Guatemala. Mazatlan no more sleepy west coast town—beeg beezness pronto." He smiled broadly at the thought.

"You know," he continued, "revolution bad beezness. No buy, no sell. People afrai' to wurk."

All of which set me to thinking, as one will on a foreign hotel veranda. Why not a little look around at what had been the scene of some real fighting only a few months before. Several citizens had been killed by stray bullets. Bankers had looked across the bay to the thousands of nondescript rebel troops camped under the palms and had feverishly sacked their gold and silver. Then under cover of darkness many of them had made off by whatever craft was available to Le Paz, on the southern tip of Baja California, or even to San Diego and Los Angeles. Manifestly there was more to Mazatlan than was evident from the archways of Del Mar hotel.

"Yes, Manuel is a good boatman," I was assured, "and he knows the bay." So on the advice of a trustworthy acquaintance to whom I had letters of introduction, we set forth on a sightseeing motor boat jaunt, on one of the most delightful bodies of sheltered salt water on the whole west coast of the Americas.

A Mazatlan boat builder with his simple facilities, works in the open on the shore of the ba.

Mazatlan lies on a peninsula connected with the mainland by a causeway which is just a few feet above high tide level. As one stands at the mouth of the bay facing the mainland, the red-tiled roofs of the picturesque city lie somewhat to the left. To the right is a long low strand, a wonderful bathing beach dotted with cocoanut palms. Between these two extremes forming a part of the mainland is ground that gradually rises until in the distance it becomes a jagged skyline of mountains. The Southern Pacific railway, which was one of the key elements in the military situation skirts the shore of the mainland occupying the narrow strip of low land between the ocean and the mountains. The Mazatlan station is not in the town proper but at the landward end of the causeway that I have described.

The rocky hillsides back from the shore reveal many primitive native dwellings

With this general layout in mind I discussed the possibilities of an interesting motor boat jaunt with trustworthy Manuel. By dint of much gesturing, bowing, and smiling on the part of us both we managed to reach an understanding which included a few pesos for the use of the sturdy boat. While the craft bobbed and oscillated hard by the federal customs wharf I managed to climb aboard with camera in one hand and tripod in the other. Then, to the accompaniment of much snorting and coughing we shot out from the pier toward the palm bespangled strand on the opposite side of the bay.

It was a thrilling setting. At our backs were the low roofs of the custom house; a little farther to the seaward rose the rocky cone-shaped island surmounted by the Mazatlan light—the second highest light in the world. To landward stretched the great crescent of a bay, somewhat irregular, presenting to the spectator at one sweep a cross-section of Mexico's whole social and industrial life. Farther from us than the custom house and on higher ground could be seen the villas of Mazatlan's well-to-do—merchants and government officials and militarv men. Some of the places, our land jaunts had shown, had fallen into disrepair but nevertheless there remained abundant suggestions of wealth and culture and from the bay they presented a rather imposing appearance.

To the right of the custom house were a miscellany of shops and dwellings. The latter deteriorated in quality and attractiveness the farther one went from the better residential section. Almost due east from our position was the mouth of an estuary or lagoon which extends inland a considerable distance. To the

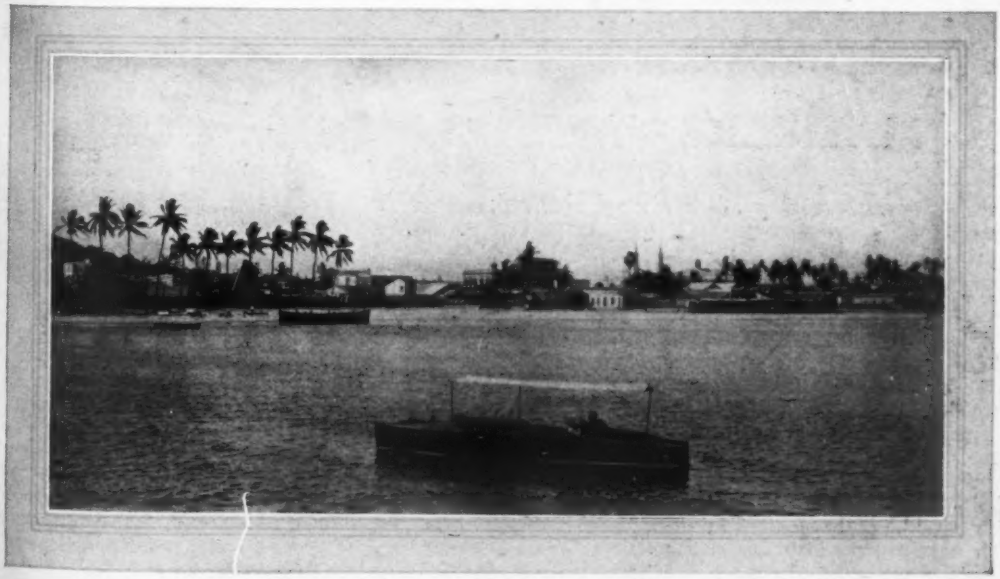
right of this broad break in the curve of the bay lay the sandy beach, dotted with palms where the rebels had encamped. The seaward end of this attractive beach terminated in a high hill covered with trees and forming an impressive natural shelter for the waters of the bay. A bright tropical sun cast a brilliance over the scene that made it most colorful. From the sea came breezes that modified the heat of the sun's rays and made conditions delightful for a cruise.

Our craft measured about 18 feet and was evidently designed to meet rough going when occasion demanded. While comfortable it was far from luxurious and a glance at the noisy, grease-covered gasoline engine was not particularly reassuring. After what seemed to be some uncertainty of mind, Manuel headed for the opposite side of the bay, which I judged was four or five miles distant. As we got farther out into open water I noticed, some distance ahead, that the waves were surprisingly rough. There being very little wind, I was somewhat surprised at this, but on studying the situation more carefully decided that this rough water was caused by the outgoing tide, coming in conflict with the waves rolling in from the open ocean. As everyone knows, this creates the kind of a sea that is very distasteful. However, I did not give the matter much thought until we had traversed about two miles more. Then, as we were approaching this angry mess, with irregular crests mounting to rather astonishing heights, the old engine began to sputter and cough. Sneezing followed. And finally dead silence. For some time Manuel was at a loss to know what to do. Apparently his course in marine engineering had given no attention to sick engines of ancient vintages. Meanwhile I observed that we were drifting rather rapidly toward open sea, but likewise toward this tide channel. In fact it seemed as if we might be making faster time without the motor than we had with the motor. Just when things began to look a little serious, Manuel had the miraculous good fortune to do the right thing—whatever that might be—and the old engine began to plop—plop—plop once more.

Like so many incidents on life's journey the bore waves ahead did not prove as upsetting as we had anticipated. Indeed, they gave me a new respect for the seaworthiness of these Mexican craft.

Bare feet, sombreros and pajama-like costumes are the order of the day with most of the native boatmen around Mazatlan

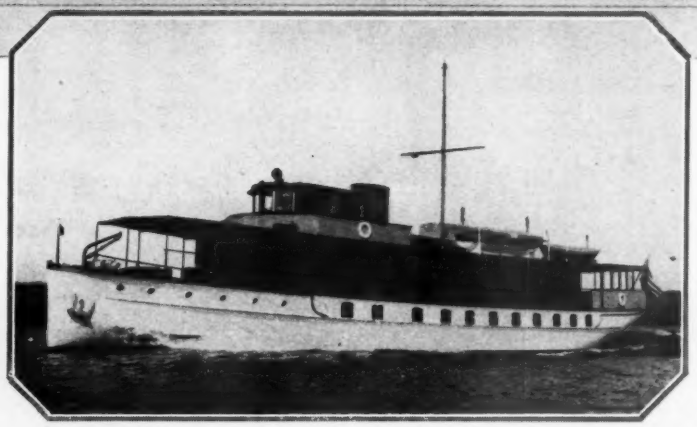
By this time we had approached fairly close to the palm shaded strand. With a very limited vocabulary, eloquently supplemented by descriptive gestures, Manuel made me understand (*Continued on page 70*)



Our boat ride gave us an unusually fine opportunity to survey the city of Mazatlan

E. Levick, Inc.

The large social hall on Maemere approaches the comfort and ease of the country home



Maemere is 110 feet long and with 600 h.p. in Winton diesel engines can do 16 miles per hour readily

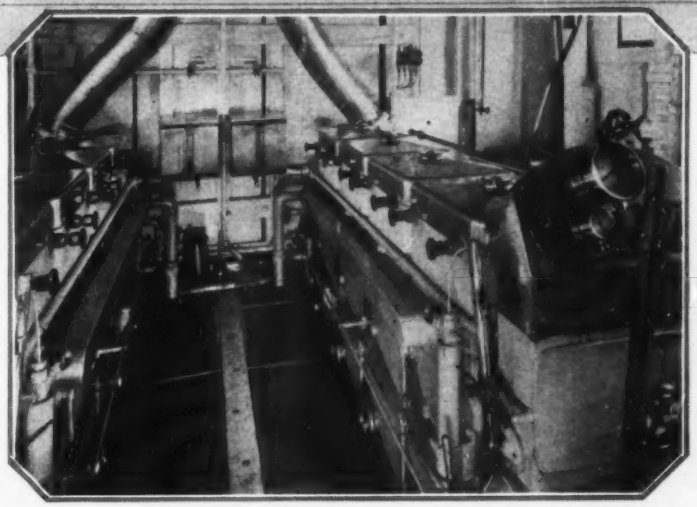
MAEMERE—A DIESEL HOUSEBOAT

Interesting New Vessel Built for DeWitt Page and Equipped With a Pair of Powerful Diesel Engines

MOST popular among the types of large yachts not intended particularly for deep sea or ocean service is the well known houseboat type. Recent developments in the design and construction of this type of vessel have shown a tendency towards greater speed and general all around ability. In boats not intended for heavy seas, it is possible to adopt an entirely different style of decoration and furnishing which would not be possible in the case of vessels which travel on the high seas and are subject to the rolling and tossing of the waves. Maemere, a new 110 foot cruising houseboat is an excellent example of this type of boat since the comfort and luxuriousness of her furnishings and appointments would cause one who steps aboard her to forget that he is aboard a ship.

Maemere was built during the past summer for DeWitt Page of Bristol, Connecticut, at the Camden, N. J. plant of the Mathis Yachtbuilding Company. Her design was prepared by the designs department of the builders and no expense has been spared in making her one of the finest of her type. Her construction follows the most recent practice and all modern features of comfort have been incorporated in her. She has an overhanging yacht stern with a slightly raked bow.

By using the full width of the hull spacious quarters have been secured for the owner. Furnishings and decorations follow the style of a fine home



In a beamy boat the two 300 h.p. Winton diesels seem to occupy very little space. The engines are of the eight cylinder diesel type and produce 16 miles

This makes for seaworthiness when the conditions demand it. Another structural feature for security is the provision of patented metal shutters for all windows which can be closed in order to protect them in case of storms.

This boat has a length of 110 feet and a beam of 20 feet. The draft has been kept light to suit conditions encountered on the route to Florida and the waters of the south. The engine equipment consists of two 8 cylinder Winton Diesel engines which develop a full 300 horsepower each which is more than sufficient to give her a speed of about sixteen miles per hour.

In a boat of this size many excellent staterooms can be provided. In the owner's quarters are several large double staterooms which by reason of occupying the full width of the boat are unusually roomy. Smaller rooms are also provided for the guests and there are sufficient bath rooms throughout. All quarters used for sleeping are arranged below the deck line while space above this in the deck house is occupied by the large social hall and smoking room at the forward end. The pilot house and stateroom for the captain are on the upper deck where he is conveniently placed to the center of operations at all times. The smoking room which is immediately below is unusually large and roomy and fitted with an attached bathroom. The serving pantry is close behind this and is followed by the very large dining room and living room aft. The finish of all deck houses on the outside is of teak while this excellent material has also been used liberally on the interior of the boat.

The use of diesel engine equipment in boats of this type and style is a relatively new feature. Heretofore the preference has been for lighter engines of less power and it is apparent that the trend towards diesel engines will ultimately result in many more boats of this large size and style adopting this form of engine.

Anne acts as relief pilot at times

DOWN BISCAYNE BAY

A Short Summer Time Trip Among the Florida Keys Below Miami

By CONNROD KELSON

A FEW weeks ago, or the early part of August, Anne and I were at Miami whither a little business had taken us from the small nearby town where we live. The business was finished much more quickly than anticipated and left us with some free time that seemed like a gift from the gods, it being both so welcome just then and so unexpected, like falling heir to fortune at an opportune moment, for we had our boat with us and those few hours on a Friday afternoon left us free until Monday.

It was by dint of much scraping and saving that we had managed to fill up Cruisette's gasoline tank and so she was ready for a cruise when the necessity came for going to Miami. There was some ground for believing my business might keep me over night, or necessitate returning the following day, making a fine argument for going in the boat. Then, too, Anne could go and we could make a week end of it by a leisurely return through the inland water way, disturbing but little the critical economic scheme of our existence.

So that is how it was we quietly dropped down river Thursday evening on the last of the ebb, took departure from the sea buoy, and under easy steam and a half moon made Miami entrance three hours later and stood in that harbor on the strength of the flood. At ten thirty we were tied up at the deserted Royal Palm Dock and sitting in the cockpit living over the splendor of the just completed run on a summer sea along the edge of the Stream, and recalling one night the previous February when we sailed from New York during the early twilight of that winter's day, in this same sweet craft, loaded deep with our household goods and chattels, to make our abode forever and ever in this tropical land of dreams....And so we grew drowsy to the tune of the ever present fresh S. E. breeze.

Early rising is by no means a hobby with me but the passion for a clean, shipshape boat compels my being on deck with the early dew armed with swab and chamois. If there is anything missed between stem head and flag staff truck it is because of a pretty important distraction. Anne feels the same way, so between us the Cruisette probably ranks high among well kept craft; we think it pays big dividends in added pleasure. So when mess call went on Friday morning the deck work was done, the cabin in order, and ourselves in the uniform of the day, in this instance for going ashore.

Mess gear was spread in the cockpit, a side curtain dropped against the morning sun. Here might be a good place to say that Anne sets a delightful looking table. Somehow she never seems to lack fresh linens.

A quiet boat basin in which the cruiser can tie up securely

no matter how long the cruise or trying. Nor is she stingy with silverware and china, though of course a strict system has to be observed, and some economy in the soiling of dishes, yet she has a way of making it seem painless. I have found a flower on the breakfast table eighteen hours out from Beaufort, making for Charleston. Sometimes there has been none too much food, which has been my fault, but the little on hand has ever been served with—distinction.

But this meal lacked for none of the usual courses, in addition the fruit, milk, and butter were so cold they were almost frozen. We lingered over a second cup of coffee and a cigarette, cool and comfortable on what we knew to be a hot day—what luxury!

It takes us, working in a team, about fifteen minutes to scrub and stow mess gear, wipe down the galley, put the finishing touches to ship and selves, and be on the dock headed for the beach, with just a pause to inspect lines and fenders before shoving off.

Before we had made half the distance to Flagler Street we were mopping our brows under a sun that scorched the earth from a cloudless sky. We trekked along and after a while, with many a sigh for a taxi, arrived at the corner where our ways parted, me to my appointment, Anne to her window shopping, which is about the only kind we do.

"Meet you about one for lunch," I suggested. "The Columbus is open, how about there."

"Yes, that would be a nice place to have lunch."

"Meet you there," I said. "There's a nice Chili counter conveniently near—all you can eat for thirty cents," I hastily corrected.

"Oh! Why can't we be rich like other people," this from my Anne.

"Because it's vulgar for one thing. The other is that I don't know how to connect with the glittering gold."

Our meeting arranged for we parted to our respective occupations. It was very warm away from the breeze which the buildings completely cut off. Almost any exertion seemed distasteful, and the prospect of a day largely spent in fruitless effort trying to catch the several persons whom I was interested in meeting, for with one exception I had no appointment, was indeed irksome. It seemed certain to me that the day promised to be trying and inefficient, with a probable hangover until the morrow.

Luck such as was mine that morning only happens once in a while for a few minutes past noon found me finished with unlooked for satisfaction and ease. Developments in one case, pleasing ones, held it over to the next week. This prospect for a return trip to Miami fostered a rapidly developing plan, it but remained to locate Anne and save the precious hour that remained before the time set for meeting.

I walked a few blocks in the shopping district on the off chance of meeting her and ended up not far from the dock. Oppressed by the heat and thirsty I decided to keep on

The type of Elco cruisette used by the skipper and Anne for their little cruise

The old lighthouse on the tip of the cape

and find refuge on the boat. It was with a sigh of relief and a long thirst that I swung aboard, and there I found Anne, a sun tanned vision in white, cool and collected, sipping iced lemonade from a long glass, with the big silver pitcher, brim full, hard by.

"Hey," said I, experiencing a great sense of delight.

"The heat," she said, "drove me back here. Isn't it broiling in town and isn't this delightful."

Deep in the shade of the cockpit with the breeze making merry work for the flags and the water slapping the sides, with a gleam from polished brass and a glint from varnished mahogany—it was.

I found my glass and drew up along side the frosty pitcher and over a tall drink explained the necessity for being in Miami the first of the week, that until then there was nothing more to be done.

"Nothing for this afternoon?" asked Anne incredulously.

"Free as air until Monday. How much money have you?"

"Twenty-five dollars anyhow, with possibly a couple more in change. Why?"

"Oh! I just thought we might stock up, a little extra you know, and drop down to Ragged Keys."

"Using up the rent money? Oh! no."

"Well, then lend me five dollars. I'll write a story and make it up. You might let me have ten."

"Say, old dear, I came across a book of your old compositions recently in the bottom of a trunk and judging by them nobody's going to pay anything for what you write." This from my Anne.

"Perhaps they don't mark on spelling and grammar," said I, hopefully.

In the end I got the ten, but to put the thing on an honest basis it was made a gift and not a loan.

"We are likely to be put out of our digs," sighed my better half.

"Fine! Then we can live on the boat and save money."

We did a dance for joy. In the midst of it, my watchful eye roving shoreward, I let out a shout, frightening my partner....

"Ahoy, there! Aboard the ice truck!"

We filled our ice box to overflowing, nearly three hundreds pounds on hand, and thanked the builders for a big ice capacity.

"I'll dash off a grocery list," said Anne, "and while you are getting them I'll fill the water tank. How about gasoline?"

"Of the latter we have plenty. Let's have your list, big girl."

Heat did not prevent me from making four knots up to the store. My order went through speedily and I returned with the stores in the delivery wagon.

"Doubled your ginger ale order, ole thing," said I, turning on the gasoline. "You fill the water tank?"

"Yes, both full. Shall I single up while you are warming up the engine?"

"Single up. We can stow down after getting underway."

Five minutes later we were maneuvering out of the slip, our three-day holiday all ahead of us. Out on Biscayne Bay we stood and held southward through the dredged channel. The water ahead was blue and sparkling with white caps just beginning to form under the freshening southeast breeze. On either hand over the shoals, the water was a marvel in greens, shading in places to almost milk white. On the port bow a point or so was Cape Florida, low and wooded with cocoanut trees. Astern the fairy white city. A flick of spray came over the port bow. The engine throbbed contentedly on an easy throttle.

We brought the light at the southern end of the channel abeam and steadied on a 180 degree course, the engine turning 650 revolutions. Ordinarily that will give us a speed of about eight knots but in the shoal waters of Biscayne Bay (nine to twelve feet) we find we lose about half a knot. Our maximum speed is about ten knots at nine hundred revolutions.

Anne busied herself stowing the groceries. She observes a strict routine in this detail about as follows: When received aboard the stores are placed on a white tarpaulin on the cockpit floor. Then they are opened up, checked and examined for roaches. Every now and then some of the latter are found and dispatched, so it is doubtless a worthwhile bit of trouble, certainly we are not troubled with the pests. The articles are then taken below and stowed in their respective places. Bottled goods we keep in a box under the cockpit floor, excepting a few bottles in a locker for immediate use. As we like ice in our drinks we

don't put the bottles in the ice box, it seeming wasteful to chill all that glass.

A little later as I was remarking to myself that Cape Florida would soon be abeam, that we were being set to the eastward a little which meant the current was beginning to ebb, that the glass had gone done .02 since noon as was to be expected, and that I was mighty hungry, Anne appeared with mess gear which she spread on the engine housing top. She ducked below to reappear with a fine big dish of sliced fresh peaches, a frosty pitcher of cream, a platter full of paper thin bread and butter sandwiches, and iced ginger ale. Oh! boy, what a life. Hot and dusty ashore, how well we knew it. We paused, as is often our custom, to remind ourselves of our good fortune and to appreciate what we had.

To steer a good course and eat at the same time was no trick at all with the wind and sea prevailing. Full justice was done to what was explained to be "a light lunch, not to crowd dinner," it then being close on six bells. As we ate I pointed out Biscayne Key and Cape Florida to Anne, who was making her first trip down the Keys, and told of the big estate there and how its hospitable owner was annually host to all the visiting winter yachtsmen. Like regatta day when a great fleet of yachts from Miami, Miami Beach, and Palm Beach sailed over and tied up in the snug and pretty basin and all hands abandoned ship to feast on the best fish chowder, crackers, and coffee, etc. And the old lighthouse on the Cape, now abandoned, built by the Spaniards of brick brought from the Old Country when the New World was new indeed.

The pretty slanting cocoanut palms set at careless random

By the time our delightful luncheon was finished we were down to the lighted beacon marking a slue through the reefs which separate the Bay from the Straits of Florida. Soldiers Key lay about a point on the port bow and Fowey Rocks Light, which replaced Cape Florida Light, broad on the same bow. We had changed course two degrees to starboard but it was not enough as I noticed we were still sagging towards the reef on the now swiftly running ebb. So we put her on course 184 degrees making for a slue good for six feet about a mile eastward of Feather Bed Bank. This slue had been marked by small markers in 1926, my last cruise in these waters, and I dared to hope them still in position.

Anne relieved me at eight bells and I lit off a pipe and had a good look-see through the glasses and was glad to pick up the beacons on Feather Bed Bank. No amount of search, however, would bring in the markers on my slue. Obviously the sensible thing to do was to change course a couple of points and pass by Feather Bed. The distance would be not over a mile further with nothing to worry about, for I have a dread of running on the remains of a missing marker, not infrequently the piles have been cut by teredos just at the low water line leaving a hard encrusted point.

But the desire to go through the eastern slue was upon me. We slowed to bare headway and I took a bearing on Fowey Rocks and the beacon on Feather Bed and fixed our position. Laying a new course from the fix to the slue as shown on the chart we went ahead on easy steam. The water was clear and we could easily see bottom on the shady side.

After running out our distance we slowed to bare headway, drifting without power from time to time and keeping an anxious eye on the grassy bottom. Just as I had about decided that the beacons were down I saw a small finger board scarce larger than a man's hand and close to the water about fifty yards ahead. We made for it and found an unpainted board tacked on a pole stuck down by some good Samaritan among several stubs of old piles, remains of beacons marking the west side of the slue.

As we passed through the slue we caught a glimpse over our quarter of the evil looking stumpy remains of a beacon once marking the east side of the entrance as it bared in our wash. The beacons to westward of the north end of Sands Key were next ahead, I observed a light had been established on one of them. These beacons mark the through channel to Key West and are not passed by boats stopping at Ragged Keys but with local knowledge they serve as a guide to the best water in.

Ragged Keys consist of six or seven tiny keys. The largest comprising some six or seven acres lies to the south and has a heavy growth of mangrove and palms with a few Australian pines. There is a dredged basin and two years before a *(Continued on page 72)*

Miss Helen Wills just prior to her wedding cruise on the yawl Galatea

HELEN WILLS GOES BOATING

Popular Tennis Champion Tries Yachting for a Wedding Trip and to Secure Restful Quiet and Seclusion from Publicity

By CLARENCE EBEY

LINDY and Anne started it. The idea appealed tremendously to Helen and Fred, especially Helen, and they kept it up.

But not even that much of an explanation has been vouchsafed to a waiting, palpitating world as to why Miss Helen Wills (now Mrs. Frederick S. Moody, Jr.), world's champion woman tennis player, and her recently acquired husband should have decided to spend their honeymoon aboard a borrowed yacht and that they would NOT be at home to their friends or even—or perhaps especially—to newspapermen until that happy event was concluded.

You will remember that Charles A. Lindbergh and Miss Anne Morrow acted very deceitfully with a large group of newspaper correspondents and photographers, walking right past them after the wedding without so much as saying: "We have just been married," and so aboard a waiting yacht, by the aid of which they were able to remain in seclusion for as much as some time.

Helen Wills had suffered somewhat from the same affliction that had so long bothered Lindbergh. She knew what fame and publicity and interviews and cameramen meant. She usually had managed to keep from showing annoyance at the constant presence of news gatherers and photographers, but she frequently longed for more privacy, being a modest and quiet soul, and she never sought the limelight.

So when she learned from her betrothed, who is a member of a prominent San Francisco family and has many friends among yacht owners, that his good friend, Cyril Tobin, San Francisco banker, had volunteered the use of his sixty-eight-foot yawl, Galatea, for a really private honeymoon, she fell in with the idea at once.

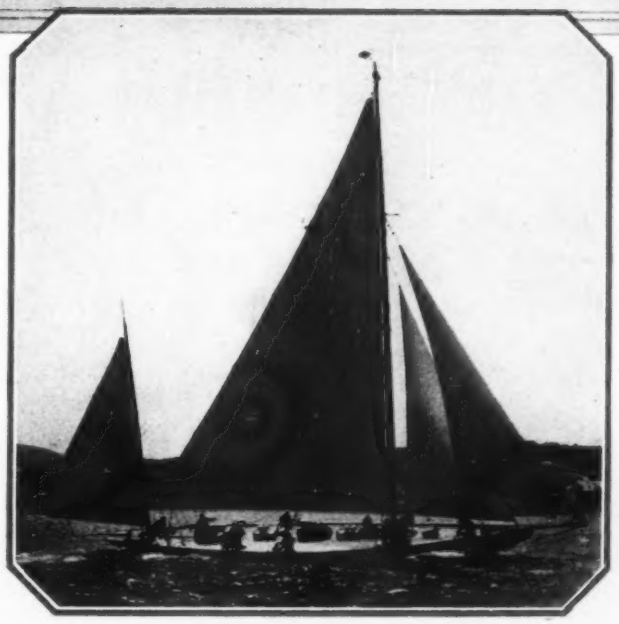
Of course one must not discount the appeal of the sea itself. Miss Wills longed to feel the tang of the ocean breeze in her face, to sense a good boat beneath her, bounding over the waves; to roam at will in strange water, to explore out-of-the-way places, to peek into hidden nooks, to drift before a favoring breeze, with a kindly sun and fleecy clouds overhead, to answer the alluring, mystical call of the vast ocean to come and see—she knew not what.

As for her fiance, Fred Moody, Jr., nobody had to ask him twice to embark on such a journey. The sea was to him as an old playfellow, almost a blood brother, or a part of himself. He had spent years following its fortunes, watching its moods, enjoying its smiles, fearing its frown, trying to avoid its outbursts of anger.

For Moody, whose forebears were identified with California's early-day history, when men faced stern tasks and frequently sterner situations, had been to sea when the going was no frolic.

The son of a San Francisco capitalist, who for several years was a member of the California State Highway Commission, and the grandson of Mrs. Joseph L. Moody, whose late husband amassed a fortune in the hardy days when California was in its swaddling clothes, he graduated from the Potter School, a private institution in San Francisco. His

A merry party of congenial friends on the deck of the yawl Galatea



The yawl Galatea is sixty-eight feet long, and a thoroughly able little craft

parents had planned for him to enter college, but he longed for a more vigorous career.

Reared on the shores of the sometimes placid, sometimes stormy San Francisco Bay, the smell of salt water was early in his nostrils. Often he watched the coming and going of the ships from the seven seas plying through the Golden Gate. The wharves, and docks, and shipping centers of San Francisco's famous waterfront knew him as a frequent visitor. The sea, its mysteries and adventures drew him irresistibly.

His friends, therefore, were not surprised when he had his way and shipped before the mast on the four-masted bark, Falls of Clyde. As an ordinary seaman he took his knocks with the rest of them, asked no favors, endured the hardships and sailed at the joys of a seafaring life. Among his experiences were two voyages to Honolulu from San Francisco and back and a longer journey around the Horn to Copenhagen, Denmark, returning to Galveston, Texas, for his discharge. Before he had left his romantic life as a sailor for the more prosaic one of a bond broker in a San Francisco office he had worked his way up through the ranks and won a first officer's license.

Moody had been on Galatea many times before he embarked aboard her for this cruise. In fact, he had handled her more than once when her owner had entrusted her to him for a pleasure jaunt. His bride, also, was no stranger to Galatea's desks, for she often had been a member of parties that enjoyed the beautiful little pleasure craft's hospitality in exploring the attractive spots about the huge bay that looks out over the Pacific. So the idea seemed indeed a fitting one.

Galatea is a sturdy craft, built years ago in Sweden, where they make boat building a hobby, as well as a business, and designed by Anchor. Mr. Tobin purchased her and brought her to the Pacific Coast in the early part of last year. She is composite built, of mahogany hull and teak decks, with sleeping accommodations for six, with three in the crew. Shortly before being turned over to the Moody's she was overhauled and put in apple-pie order at the William F. Stone & Son shipyards in Oakland, California. Several months before that Tobin had her re-rigged as a yawl.

A much-delayed and long-prayed-for rain was visiting the San Francisco Bay region at the time of the wedding, so Tobin sent Galatea to Southern California, where the skies were (*Continued on page* 80)

Tyee partially rebuilt and ready for the additional strakes of planking

IT TOOK PATIENCE TO BUILD TYEE

Many Problems Arise During the Rebuilding of a Boat Which Can Be Successfully Solved by the Resourceful Amateur

By A. V. COMINGS

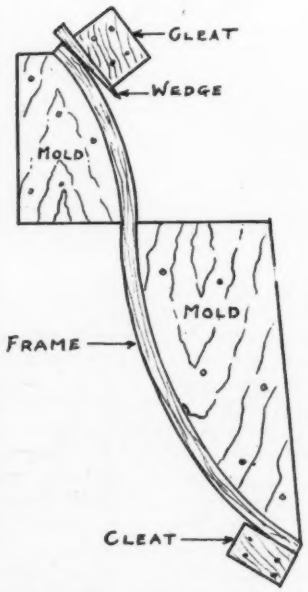
Part I

"THE construction of a small boat is an enchanting thing," wrote Bill Atkin in MoToR BoatinG last November. I thoroughly agree with him.

For as long as I can remember I have wanted to build a boat. The desire reflects a combination of two life-long enthusiasms; one a passion for anything that had to do with boats and the water, and the other a deep-rooted love for things mechanical—tools, machinery and the building of things with their aid.

Until last summer the urgency of busy years conceded no vacations of sufficient length to indulge my boat building urge, but last April I threw off the switch on things of the must-be-done sort, and set aside for my own six months of leisure to be used in any way I chose.

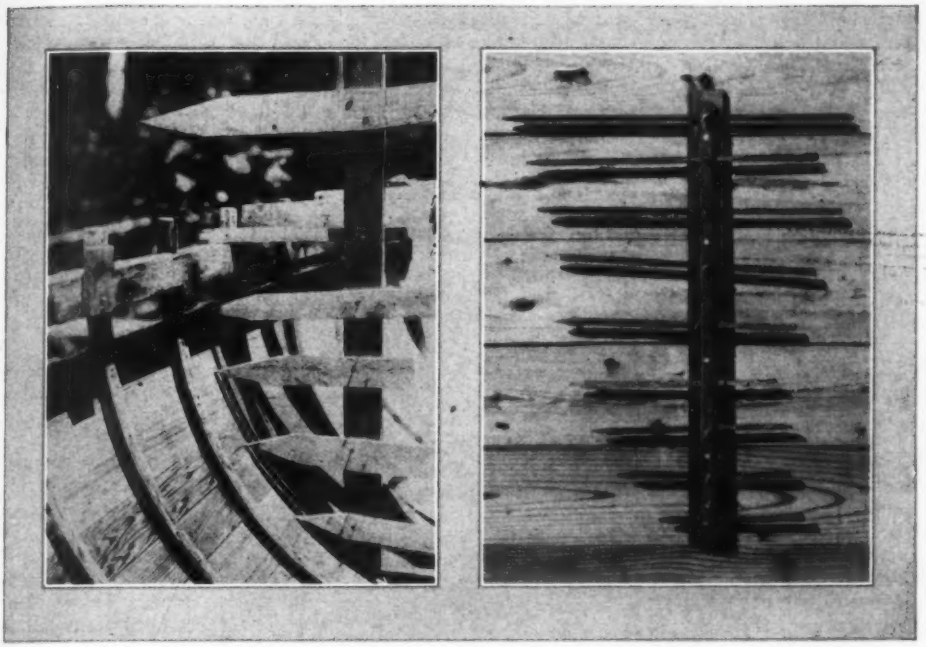
And I used them, I must confess, not for building a new boat, but for rebuilding a boat I already owned. However, the task, and the daily satisfaction in its accomplishment was almost as great as though I were building a new boat from the keel up, so complete was the reconstruction job.



The method used in arranging molds for bending reverse curved frames to give flare

My personal equipment for the task was no more than that possessed by thousands of amateurs, a certain facility in the use of wood and metal working tools, and a theoretical knowledge of much of the work to be done, gained from the columns of MoToR BoatinG and a perusal of some of the admirable How To Build books issued by this outstanding mentor of the amateur motor boat enthusiast. Like all amateurs who seek to put theoretical knowledge into actual practice, I met with many problems, and my only motive in passing on to the readers of MoToR BoatinG the methods I found entirely successful in overcoming all reconstruction difficulties is that perhaps it will help others to more readily do similar work on new or old motor boats on which they may work in the future.

In accomplishing the rebuilding job I used a fairly complete set of



The contour gauge made to determine the shape of added frames

An adjustable gauge which was useful in making molds for all the frames

carpenter tools, files, cold chisels, hack saw and other metal working equipment, a blow torch and soldering iron, etc. Of particular use from the standpoint of labor and time saving, however, I found my Black & Decker quarter-inch electric drill, which I used both as a drill and as a screw driver, and a Wallace Workace power woodworking outfit, comprising a combination 8 inch circular saw, four inch planer and six inch wood turning lathe.

For a work shop I built a temporary building, 8 by 12 feet, close to the water's edge.

Of the actual work of rebuilding, let me say this at the outset; every detail was made as strong and as break-proof as I knew how to make it, and every installation as fool-proof as my understanding could achieve. I have no patience with gas lines that clog or rattle loose and break at critical times, tiller lines that jam, break or pull sheaves from flimsy fastenings, important nuts that work loose and fall into the bilge, cleats that pull out, etc., etc. Large or small, I care only for sturdy craft, in which every detail of construction and equipment meets every test to which it is ever put. More than once I was tempted to slight some detail, in my desire to sooner get Tyee into the water. Each time I resisted, however, and so I can push Tyee's nose into any weather that blows in her home waters, confident always that she will not fail me at any spot in her anatomy.

The method adopted for laying out a frame mold with the spline

A word about Tyee, which is the rebuilt Patience. She is a double ender 24 feet 6 inch long over all, with 5 foot beam, and when I bought her several years ago for the ridiculous sum of $150 she was powered with a 6 h.p. single cylindered Smalley two-cycle motor. One of the best two-cycle motors ever built, by the way.

Not much of a boat to many, I'll admit, in these days of high speed, mahogany and varnish. But ideal for my requirements. I use her on Burt Lake, near Indian River, Mich., ten miles long and three miles wide, with direct connection through intervening rivers and Mullet Lake to the Straits of Mackinac and the great lakes.

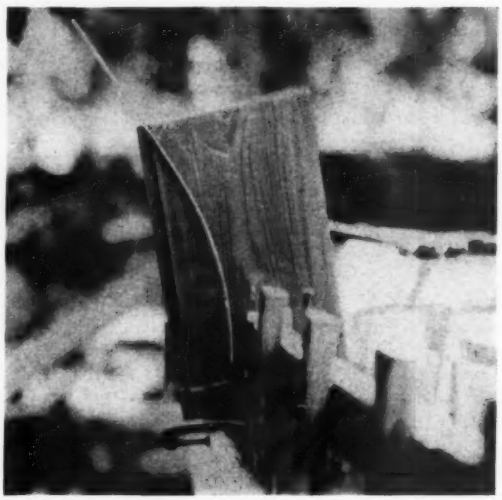
In rebuilding Patience I planned to raise her sides at least 6 inches, and give her a pronounced flare forward, to make her a dry boat. Also to install a new and more powerful motor, a 4-cyclinder Palmer Little Huskie.

The first task I faced in rebuilding was the tearing down process, the removal of decks, flooring, ceiling, motor and two planks on each side. Most of this was done with a steel pinch bar, chisel-shaped at one end, curved like a fish hook at the other end, which bore a claw for pulling nails. I know of no tool so useful as this in tearing apart wood work. Two cold chisels, used as wedges, proved fast and certain in tearing apart heavy pieces particularly well fastened.

The sheer strake, or upper plank, was of ¾ inch oak. This was screw fastened and I soon found that removing the oak plugs over the screw heads and unscrewing the screws was out of the question. So I used a heavy, sharp hand hatchet, notching and splitting the plank between each two frames. Then I split the heavy oak through the screw holes, removing the pieces and leaving the rusted screws sticking out fully a half inch from the face of

the oak frames. These screws were then turned out with the aid of notched jaw pliers, using them much the same as one would use a pipe wrench on pipe. This accomplished the task quickly and without injury to the frames which, of course, was a very necessary precaution.

I removed two planks because I had decided, by careful sighting along the sides at various points on the hull, that the cross section curve of the hull up to the top of the third plank could be prolonged and reversed, for the flare forward, as a fair curve, without a lump where the new planking joined the old. I later verified this by taking the actual contour of the hull curve up to this point, (in a manner hereinafter described), laying it out full size, and then prolonging this curve with a spline to make the bow flare curve I had previously decided on. Lifting the old motor out of the boat was part of the tearing down process and as I had neither chain block nor block and tackle, and the actual removal took less than five minutes, the method I used may be of help to others who have a similar job to do. For lifting a 250-pound motor from a boat is not the easiest task in the world.



Using the spline to get the right curve at the point of greatest flare

There was plenty of help available, but I wanted to do the whole job alone as much as possible. I had two two-inch planks, about 16 feet long and dressed on both sides. These helped to do the trick.

First I put extra blocking under the starboard side of the boat just forward of the motor. Then I took the two planks and spacing them about three inches apart, placed them with their butts against the keel within the boat just forward of the motor, and their sides resting on the covering board on the starboard side. This meant the outer ends of the planks were about eight feet in the air.

Then I heaved the motor off its foundation, and laid it, fly-wheel down, on these two planks, with the cylinder pointing toward the outer end of the planks and the crank shaft, where it extended through the front of the fly-wheel, in the space between the two planks.

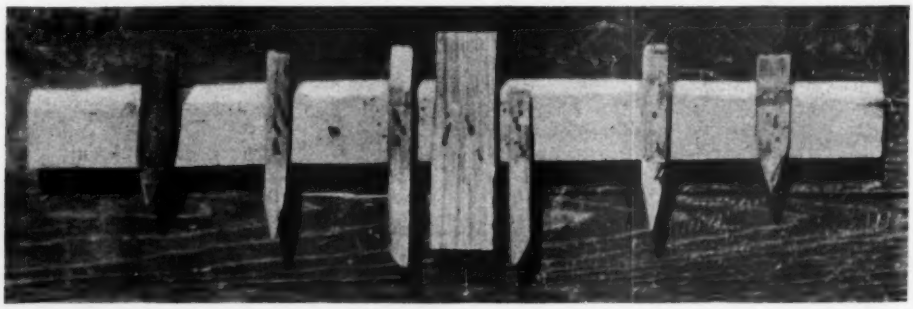
Now I was ready for assistance. My helper reached up in the air, caught hold of the two planks, drew them down and stood on them, and as the motor was then up in the air, and the planks slanted downward, I skidded it down to earth in no time. Less than five minutes after my helper arrived, the motor was out on the ground and I was ready to go on with something else.

When the tearing down process was complete I had, for the first time, an opportunity to see just how good a boat I owned, for everything was exposed to view. And I was mighty well satisfied with what I found. Evidently the man who built that boat knew his profession.

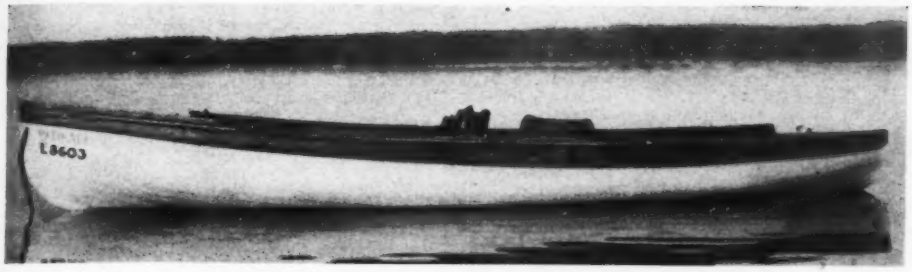
The keel, stem, stern, deadwood, shaft log and knees were of oak, all of them heavy for a boat of this size. Frames were of bent oak, one by 1⅛ inches, spaced 7 inches center to center. And about six inches below the top of the frames an oak stringer, or clamp, 1½ by 2 inches, extended from end to end of the boat on each side, fastened solidly to each frame with 5/16 inch bolts. Deck beams and engine beds were of oak, also, well fastened. Planking was of spruce, a full ⅝ inch thick, and well fastened with screws throughout.

I said that the boat was well built. I'll have to modify that with one exception, and a rather serious one, too, hard to understand in a craft so well built otherwise. Instead of the oak floors one would expect, (the cross pieces fitted over and spiked to the keel and fastened through the frames on either side), there were pieces of 7/8 inch oak spiked to the keel at every other frame, beveled to press down on the frames on either side, but not fastened to them in any way. As a result of this kind of construction both garboard planks had drawn away from the keel slightly making for a leaky boat in consequence.

In order to close the open garboard plank seams I made a huge pincers device of 2 by 4's which were slotted to fit over the frames and bear against tightly closed vises. Driving wedges at the other end pulled the frames together and closed the seam. Oak floors were then securely fastened to the frames just forward and aft of this device and when this was removed the seams remained tight. The acid test of any device is whether it accomplishes the desired end. This actually



A contour template for an oak floor



Patience before the alterations after which she was renamed Tyee

did and whipped a problem which at first looked serious.

Stripped to the bare hull, I found that I had a filthy boat, a very filthy boat. With the two-cycle motor I had, of course, used lubricating oil in the gasoline, and this, with the oil and grease from bearings, had been carried by bilge water away up the sides of the boat under the ceiling as she pitched and rolled during the years of her existence. My first job after tearing her down was to clean her thoroughly and this I did first by removing all I could with galvanized iron scoops and then by a thorough scrubbing with Gold Dust and hot water. And when I say thorough, I mean thorough. A hard job, but well worth while.

Later, as the boat stood in the hot sun day after day, oil oozed from her planking for many a week, but this I wiped off frequently with waste, so that by the time she was again given her inner sheathing she was sweet and clean almost as the day she first took the water. And the nauseating smell which hovers over so many motor boats was absoluetly non-existant.

Destruction complete, and the hull thoroughly clean, I was ready to begin construction and I can truly say that building up is a whole lot more fun than tearing down. And that goes for a lot of things besides boats.

The first job I tackled was the fitting of oak floors to replace the inefficient substitutes I had found in the original construction. This meant shaping 7/8 inch oak boards so they would notch over the keel, fit snugly along the curve of the planking on either side, and lay against the opposite frames. I decided that these should have a depth of from three to four inches over the keel, depending on which part of the boat they were in.

I do not know how professional boat builders get the contour for odd shapes such as these, but I learned for the first time that I was up against the task of developing a method for the accomplishment of what I wanted to do, a task I found necessary many, many times as I progressed with my work of rebuilding. And I will say right here that this development of a method for doing something that one has never done before, and has never seen done, is one of the most interesting phases of rebuilding a boat. It sharpens one's wits, and the successful accomplishment of each particular job for which one has had to blaze a trail for himself brings ever increasing pleasure and satisfaction.

My method for getting the correct shape for each floor was as follows:

I cut a piece of scrap lumber about three inches wide and long enough so that, placed on edge, its lower edge would be three or four inches above the top of the keel when both corners of this lower edge rested against the inner face of opposite planks and against the side of opposite frames at this point. This lower edge then represented the top of the oak floor which I was shaping.

I had previously prepared a number of pieces of ¼ inch soft pine, about an inch or so wide, and one piece of the same material squared at each end three inches wide and eight inches long. The other pieces, of varying lengths from four to eight or nine inches, each bore a sharp point at one end.

With the small board in place indicating the top of the floor, I placed the squared end of the quarter-inch piece firmly against the top of the keel, with the flat side of this piece held firmly against the cross piece above. Holding it firmly in place, I laid it on a convenient block and fastened it securely with two small nails.

The whole was then put back in place as before, and by the same method I fastened in sequence pieces which gave me the sides and depth of the notch over the keel, and then pieces every few inches out to the tip of the board on each side, so that when the whole was removed the points of the small sticks, and the squared end of the center stick, gave me an exact contour of the oak floor I wanted for that particular location. A reference to the illustration will show clearly how the finished template looks.

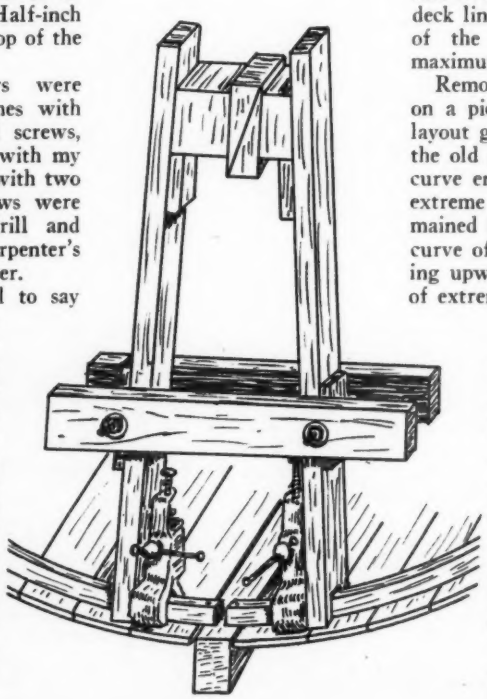
The new frames laid beside the old to which they are securely fastened

Once secured, it was the work of but a few moments to lay this template on the oak floor board, with what was the lower edge of the cross piece against one edge of the board, and then to mark with pencil the top of the keel notch, the sides, with their depth, and the points at which each small stick touched the planks. Not forgetting each corner of the cross piece where it touched the planks.

Joining all these points with a pencil mark and straight edge, the lines may be carefully followed in cutting out the piece, and if the template has been carefully made and the work done well, the oak floor will fit into place snug as can be. I found that there was almost no cut and fit work to be done on these odd shapes in installing them. Most of the shaping of these floors I did on my power saw, leaving little hand work to be done with plane or draw knife. An inch and a half carpenter's chisel was used in making the notches which fit over the keel, and which must be carefully made if the floor is to fit tight, both sides and top. Half-inch limber holes were cut in the top of the keel notches.

Once shaped, the floors were through-fastened to the frames with 1¼ inch No. 10 galvanized screws, bored and counter bored for with my electric drill, and to the keel with two galvanized spikes. The screws were run in with the electric drill and tightened at the last with a carpenter's brace fitted with a screw driver.

Right here it may be well to say that in oak always, and in pine if there is any danger of splitting the board, the time it takes to bore for screws is time saved in the long run. For the shank of the screw a hole almost as big as the shank, and for the thread part of the screw a hole somewhat smaller. And in oak, always soap the screw before driving. Just draw the threads of the screw a couple of times over a bar of kitchen soap. It will drive far easier and will keep you from twisting off many a screw on the last turn or two.



The pincers device made to draw the garboard planks closer to the keel

From the standpoint of appearance the raising of the sides of the boat, giving them a nice flare forward, was technically the most difficult task I faced in the whole rebuilding job. In building a new boat from architect's drawings, all the lines are laid down and every dimension is set down in blueprints, and working from these it is but a matter of transferring the carefully worked out details to the laying out floor and working them into the new craft accordingly.

In my case I had what might be termed half a boat already built, with established lines and curves and dimensions as a base from which I had to build the new half with only a mental picture as my guide.

I first established that the sides could be raised a maximum of six inches without giving the profile the unsightly appearance that always results from too great a ratio of freeboard to overall length.

Next, by trial and mentally picturing the result of each trial, I decided that the point of maximum flare must not be over five inches outboard on either side from the former width of the deck at this point which was, by the way, approximately six feet aft from the bow. I would like to have given her more flare, but this would have made the beam forward badly out of proportion to the beam farther astern.

Having established the added freeboard at six inches, the maximum flare at five inch outboard from the former deck line, and the fore and aft location or this point of maximum flare, I proceeded as follows:

I took the contour of the inner face of the old planking at the point of maximum flare exactly as I proceeded in getting the contour for shaping the floors, as previously described in this article. This contour template was then fastened in place, with all points touching, as shown in the accompanying illustration.

At the proper distance above the line of the old planking a contour cross piece was nailed, with its outer point exactly six inches above the old sheer line and five inches outboard from the old deck line. This point gave me the tip of the reverse curve forming the maximum flare of the new planking.

Removing the template I laid it out on a piece of inch-thick cedar. This layout gave me the corect curve to fit the old planking, the point where this curve ended, and the point where the extreme flare ended above. There remained to fill in, of course, the proper curve of the flare from the old planking upward and outward to the point of extreme flare.

To accomplish this I first trimmed the inch board to the line of the known curve, to fit the inside of the old planking, leaving the upper part of the board intact where it would fit over the top edge of the old planking. I then fastened it in place at the point of maximum flare, notching it to fit over the old stringer, which was still in place. To clarify later work outline, I will call this half finished mold a blank.

I then clamped my celluloid spline tightly to the inside of the top plank, and snug against the side of the partially shaped mold, using a small C clamp.

Bending this spline to give me a fair curve for my maximum flare was a trying job, for I had only my sighting ability, if I may call it such, as a guide. I finally got the curve to suit me, however, with the spline held in place by small brads. It showed no hump or evidence of any sort where it joined the already established curve of the old planking, and the flare seemed graceful and well proportioned.

The mold was then removed and trimmed to this line, and a duplicate made for the opposite side of the boat. The two were then fastened in place, well braced fore and aft and thwartship. This I called my master mold, as it was from this that all other curves were sighted.

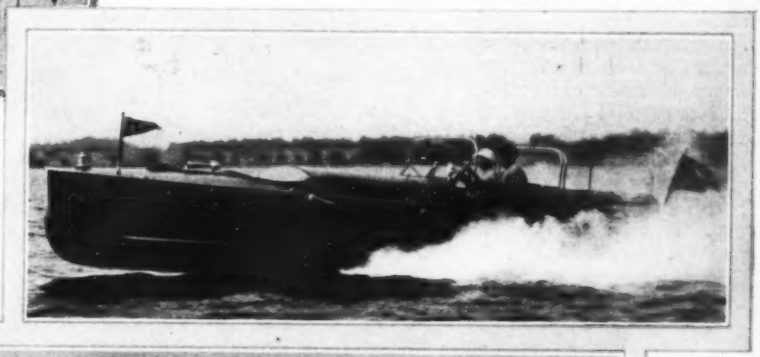
My next job was to establish the deck contour and sheer line at a height of six inches above the old sheer line, so that the new planking would show a gradually increasing flare from the bow back to the master mold, a decreasing flare from there to a point slightly back of amidship, and a slight tumble home from thence to the stern.

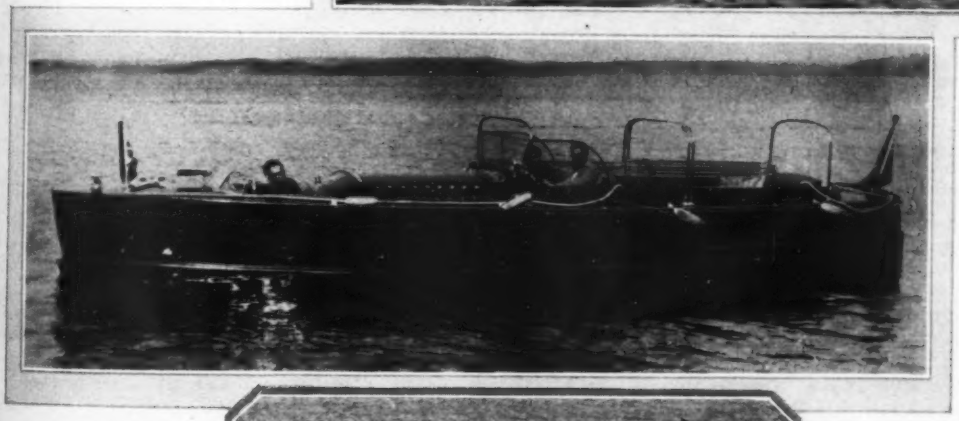
Inch square cross pieces were secured in place approximately three feet apart from stem to stern, and at least a foot wider than the beam of the boat where each was located, and ex- (*Continued on page 86*)

AMERICAN ENGINES FIND FAVOR IN CANADIAN RUNABOUTS

Dikdon, owned by Reginald N. Boxer, was especially built by Minett Shields. Powered with the 200 h.p. Kermath marine engine she does 34 m.p.h.

Ditchburn uses the 200 as standard power in the 27-foot stock Viking express runabout. Philip Morgan of Toronto owns this 40-miler





Plenty of room for a large party is a feature of this 31-foot Ditchburn runabout. A special top gives protection from sun, wind and weather and a Kermath 150 provides abundant speed

Wausbetta, a 40-foot Gidley day cruiser owned by J. B. Weber, carries a sedan inclosure for cool days on Georgian Bay with open cockpit aft for fine weather. The 150 Kermath drives her at a smart clip

A NOVEL BUSINESS

How a Young Man Spent an Enjoyable and Profitable Summer Vacation and Introduced Countless People to the Delights of Fast Boating

By GORDON P. MANNING

THIS is the story of a boy who was not content to spend his Summer vacation in idleness, just because he was fortunate enough not to have to work. It is a story of ambition applied to a field of work which is usually not attempted by younger boys. From such a story other American boys may draw inspiration to perhaps go out and do something like Richard did. He loved the water, and as he thought over how he might make use of this, an idea came to him; an idea which he later followed up as I will explain to you.

Richard Evans—the young man who spent a profitable summer as a marine taxi operator

Richard Evans had just passed his eighteenth birthday. It was June and he had just arrived at Lake George where his family had been going for years to spend the Summer. On a lake like this boats naturally are the biggest thing in a boy's life. Dick had been crazy about boats ever since he could remember. When he first was allowed to go out in a row boat alone he got that first great thrill. Then when he became big enough to use an outboard on the back of that he was never ashore. Always out on the lake—the thought struck him one day—that he could take other people out on the water for hire. He found out about getting a license and learned that this wasn't hard to do. Then the only thing that stopped him was his boat. People just didn't want to cross the lake in a row boat, especially if there were many in the party, or the lake was at all rough. This lake is about forty miles long and located as you know north of Albany. It is a lake which can get notoriously rough in short order if it wants to. There were so many beautiful trips to take around it that it made Richard decide that he wanted to run a water taxi service there. Since most of the settlements already had flourishing boat businesses and taxi services, he decided to begin his operations right at home.

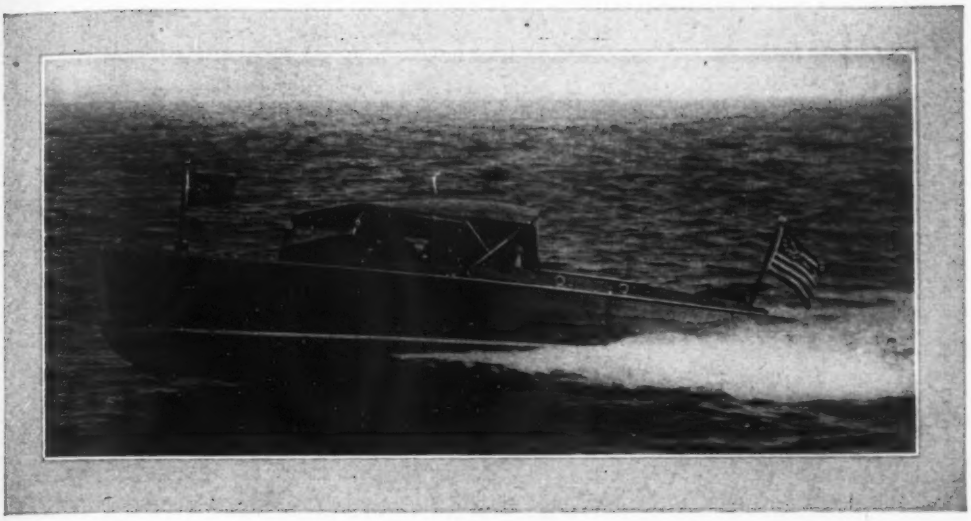
The colony where he stayed was one having a hotel and some twenty-eight cottages. The hotel accommodations were for about one hundred and fifty. So the total of prospects was not especially inviting at first. However, since this settlement was within five miles of three other similar ones, taking all in all it was deemed sufficiently well placed to warrant a taxi service. Thus there would be four places from which he could expect to obtain patrons for his boat.

He had heard of water taxi services charging a fixed rate of $1.00 a ride for ten minutes on the lake, but he knew his service must be of another kind. By the very nature of the permanent residents it was soon decided that people wanted to be out longer than ten minutes. People who lived near the water all Summer preferred to go where they wanted, and by the hour; so an hourly rate was settled on of $8.00 for the boat. This was exceedingly cheap as compared to some other places, but the location was unusual also, and altogether it seemed a fair rate to charge if he was to make money.

His first great problem was that of financing the boat, and this incidentally was the biggest one. The lad had never run anything other than an outboard but he went to his father with the proposition. He could run a motor boat for hire and he would, if his father would lend him $2,235.00, the price of a new 22 foot Chris-Craft motor boat. He promised to pay this back in two years time at a stipulated rate of interest. It required many a family consultation before his father was sold on the idea, you may be sure of that. At last his father agreed, but not before that gentleman had thoroughly looked into the proposition and pronounced it reasonable. A stock motor boat was then ordered and shipped to the lake. Of course there were insurance and freight items on the boat to be paid which brought the boy's total debt up to $2,395.00; but they were necessities which were to be expected. Here surely was something of a burden already loaded upon this young lad's shoulders. But he took it with a smile, and went about with his plans.

By the time the boat arrived on the lake it was mid-July. While this seemed rather late to begin operations, the trouble was that Richard had not had his idea early enough in the Spring. He had not telegraphed for his boat until the tenth of July! However, as soon as he had ordered it, he began getting facilities ready for her on the lake.

He was able to get the use of a small boat house right near the hotel for $25.00 for the Summer. It was enough to cover the boat and keep her in good con-



The 22-foot Chris Craft runabout which served to start Richard Evans in his profitable business

dition away from the elements. He then hurried to the local printer to get himself some advertising matter, for he was enough of a salesman to realize that if people didn't know about his taxi service, he'd never get any business. He had 100 small posters made up telling everyone to "Come and have a speed boat ride." The boat would be rented by the hour, the sign said, and it told how to get in touch with him. With these cards he went to all the surrounding resorts and posted them up everywhere. He obtained permission to put them in the various hotel lobbies and at the casinos, in the post-offices, and all over. He then went to the manager of the local hotel and told him what a fine thing it as to have an all mahogany motor boat there for taxi service. He aroused so much interest on that man's part that he fell right in with the whole idea. He allowed small cards to be placed in every room in the hotel as well as in the lobby. The cards of course were attractively done and simply reminded guests that there was now a beautiful speed boat at their command, which they could hire by the hour, to go anywhere on the lake. Dick then did this with the three other managers of the nearby hotels. He was surprised at the help and cooperation these men were willing to give him. It made him feel like a big business man.

So, by the time the boat was at the station, we well believe that many of the summer residents nearby, knew about the boat service he was to operate. For his various printed matter and things he had spent about fifty dollars more which he had borrowed from his father, and had taken in nothing as yet. He was making his investment in stock now, later would come the reward. In about a week he got a notice that his boat had arrived. He could hardly wait to get to the station. The local freight agent helped unload the shining hull, and when she was in the water, they both agreed that if people didn't want to ride in her they were crazy. She glistened like a $10,000 craft as they proudly admired her.

As Richard had never run a motor boat before, he was wise in getting the instruction book right out and reading everything over before attempting to start her. Then with the procedure straight in his mind he turned on the switch, gave the choke a half pull, and stepped on the starter. It was just like an automobile, he said to himself. In a second there was a roar behind him, and he knew the motor was running. He warmed her up—and bending over the open hatch, looked proudly down at the motor humming so sweetly in the engine compartment. It was his—all his. Surely he was going to make a mint of money with such a beautiful boat. He untied the ropes and according to the instructions pulled the clutch toward him—and his boat backed gracefully out of the slip. Then when she was far enough away, he spun the wheel and pushed the clutch forward. Just like a car! Faster and faster she went until when the throttle was wide open it seemed as though he must be traveling over the water at fifty miles an hour. In reality he knew it was only about 35 as that was the speed of the boat. Landmarks flew by as he straightened her out and pointed the bow up the lake for home. A twenty-five mile ride lay before him and he looked forward to it eagerly.

When he arrived home the glistening boat attracted everyone down to the dock to see her. Compliments flew thick and fast. What a beautiful craft! Everyone wanted a ride in her. And then, just as an inspiration Richard invited all standing about for a ride in her. He loaded perhaps ten fellows into the craft and for fully an hour took them around the lake. Up one side of the lake they sped, across, and down the other.

Perhaps this first free ride was the wisest thing this lad ever did, because certainly it brought people to him the next day. Everyone of those boys went right back to their families and nothing would do until the entire family got aboard for a trip. And so the first day of business was a good one. Richard made forty dollars above all his expenses. Surely this boat business was fine, thought he, as he came home that night with his pocket full of bills. This was his first taste of making money with his own hands.

Well, days went on, sometimes he would have a poor day, and then again a fifty dollar day would come along, although there weren't very many of them it must be admitted.

When trips from surrounding places grew scarce, he would take his boat and run over and tie up at one of the hotel docks. There he would mingle with the guests, and often just by mentioning what a great day it was to be out on the water, sell them a trip in his boat. He had bought a little yachting cap when his first day's profits came in, (*Continued on page* 88)

The diesel division of the Buda plant is a modern and well-equipped building

COMPACT POWER UNITS

Buda Company Offers a New Series of High Speed Marine Engines in Both Gasoline and Diesel Types

THE Buda Company, Harvey, Illinois, announces a complete new line of marine engines for the coming season, which includes four six-cylinder straight gasoline engines without reduction gear, four with reduction gear, a new six-cylinder light weight high-speed diesel with or without reduction gear and a six-cylinder straight gasoline job to sell at a very moderate price.

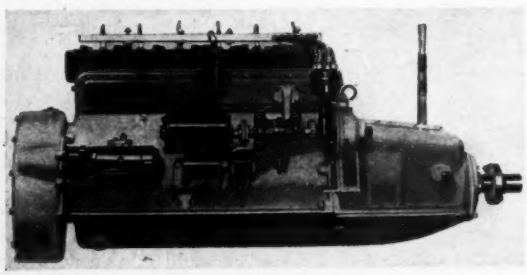
It is claimed by the Buda Company that the new models of the Hivelo series represent one of the greatest engines ever offered the motor boat industry.

As the name Hivelo indicates, high velocities have been utilized to the fullest extent in the design of this series. The HM-260 is a 3½ x 4½ engine with a range of approximately 55 h.p. at 1800 r.p.m. up to 75 h.p. at 3000 r.p.m. The HM-298 is a 3¾ x 4½ engine with power development of over 60 h.p. at 1800 r.p.m. to over 85 h.p. at 3000 r.p.m.

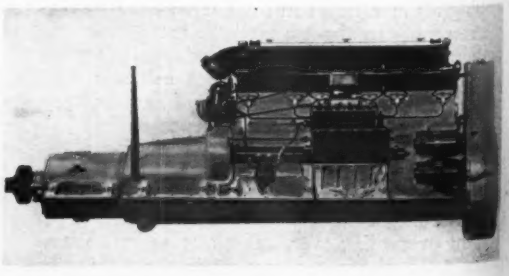
Both models have 3-inch diameter crankshaft supported on seven main bearings. With a crankshaft construction that is very short and close-coupled. The lubricating feature of these engines is the constant supply of a large quantity of oil at high velocity and uniform pressure.

Crankcase ventilation is also a feature, as water accumulating through condensation in combustion is kept in a state of vapor and in connection with the crankcase ventilation system it is drawn off under vacuum through the carburetor. In addition to being the medium of air passage from the outside of carburetor, the conductor pipe is provided with a pair of interceptor screens that trap any back fire.

Another outstanding feature is design of the main bearings. These are the customary half-shell, babbitt-lined bearings, but are shimless. Two halves of the bearing placed edge to edge effect a perfect circle. Manufacturing limits as close as five ten-thousandths of an inch are necessary for accuracy. The same is true in the crank grinding. The thickness of the bearings themselves cannot vary (*Continued on page* 108)



Starter side of the Buda Hivelo engine, showing easy accessibility of all parts



Starboard side of the 180 *h.p. Buda M.A.N. diesel, with built-in reduction gear*

A Ludington Sportship, a trim 17-foot inboard runabout

FIVE NEW FAST BOATS

A Complete Selection of Speedy Runabouts and Outboard Racing Craft Being Built by Ludington Aircraft, Inc.

THE five new models of runabouts and racing craft recently produced by the Boat Division of Ludington Aircraft, Inc., and shown for the first time at the New York Motor Boat Show lived up to expectations. Jake Dunnell, well known as a designer of small boats and racing craft and now a member of the Ludington organization, has surpassed his achievements of former years and is responsible for these new models scientifically designed from keel to sheerline.

Interest at the Show was centered on the Ludington Sportship and Sportship Senior, sister ships in design but priced differently according to the completeness of fittings and equipment. The Sportship is built to sell at a lower price than the Sportship Senior, but both boats are ready to fill the demand as a clean fast runabout at a price well within the reach of thousands of boating enthusiasts.

The Sportship is a trim little 17-foot mahogany job built especially for inboard power and driven by a four-cylinder Gray 37 Special motor, with outboard drive. Cockpits for six are placed amidship and the weight of the engine aft lightens the bow so that passengers are kept dry at any speed and seaworthiness is assured. An auto steering wheel and engine control are located in the forward cockpit. A 15-gallon gas tank and 3-gallon reserve tank, both with gravity feed, give ample fuel for distant runs.

One of the most interesting features of the Sportship and Sportship Senior is the outboard drive unit. The unit itself is so arranged that the propellor is easily accessible from the stern of the boat without the necessity of beaching for repairs or groping to remove weeds. Exceptional maneuverability and control is possible with this type of drive, as the boat steers equally well ahead or astern and can turn on the proverbial dime.

The Ludington organization has avoided double planking in the construction of these boats and instead has used sturdy single planking with battened seams laid in marine glue, making the actual protection and longitudinal strength much greater in these boats than in the double planked type. Repairs to accidents are decidedly easier and more economical in this type of construction. Fittings are chromium throughout.

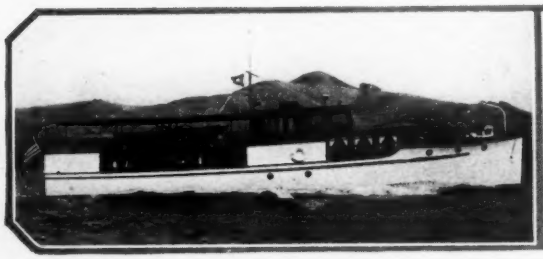
Speeds in the Sportship (*Continued on page* 106)

Hairpin turns can be taken wide open with the new Ludington Flash built for the most powerful motors

The Ludington Sportship Senior, a 17-foot all mahogany runabout is powered by a Gray inboard motor with outboard drive

THE AGE OF POWERFUL ENGINES

Big Sterling Marine Engines Successfully Drive Many Large Boats

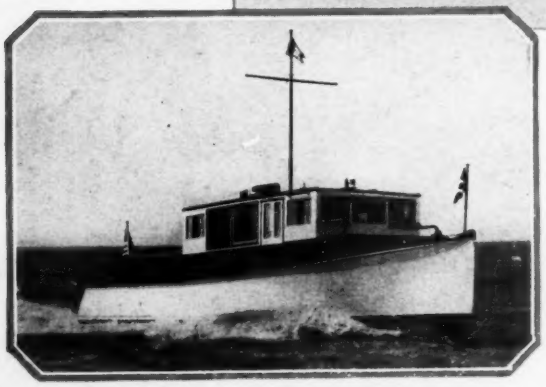


A 55-1/2 foot cruiser Cherie built for the Akelson Machine Co. by Stephens Bros. of Stockton, Calif., is powered with a pair of 150 h.p. Sterling Sea Gulls

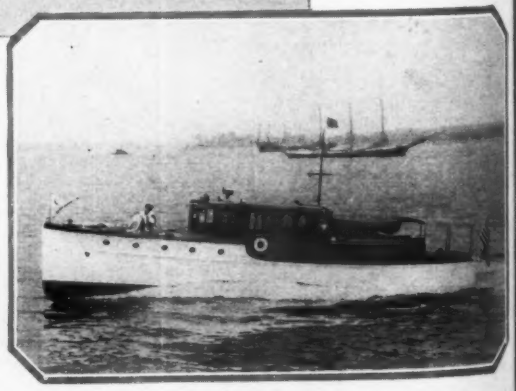
The first of the 32-foot standardized Banfield Sea Skiff runabouts which is equipped with a 200 h.p. Sterling Petrel. This boat is now owned by E. Maury Jones of New York

Thistle, a large yawl 103 feet overall which is owned by Comm. Robert E. Todd of New York. She was designed and built by Herreshoff Mfg. Co.

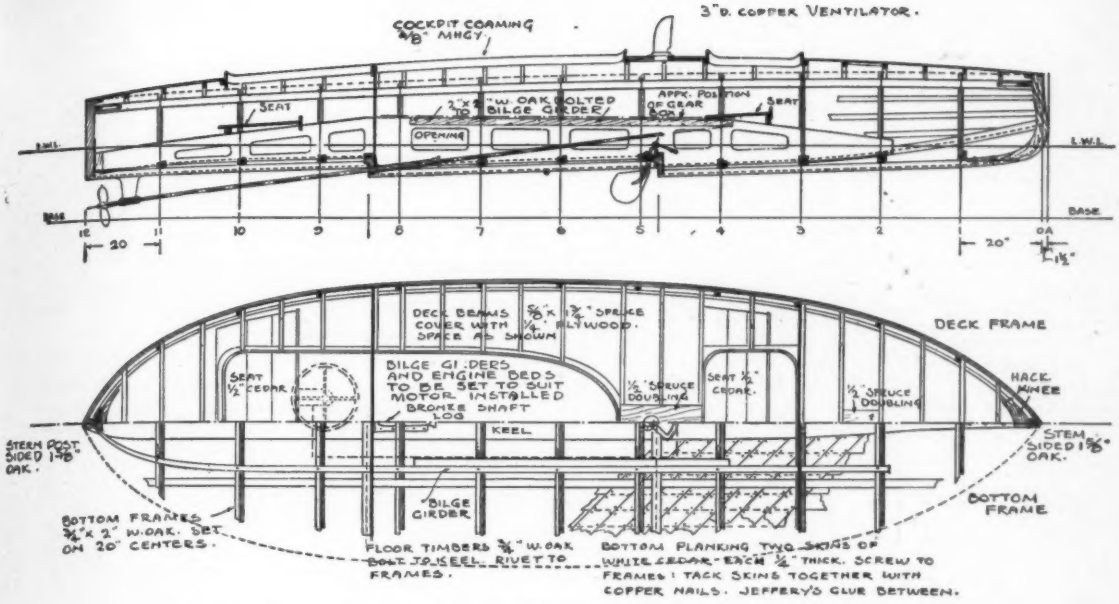
Thistle is powered with a Sterling Petrel engine operating through a reduction gear which permits of the excellent speed of 8-1/4 knots



Patricia II one of the standard 38-foot Matthews cruisers owned by Richard Cullen of New York. She is powered with a 6 cyl. Sterling Petrel which drives her at 17 miles



Sandra one of the new 48-foot Dawn cruisers owned by Tracy Higgins of Brooklyn. She is also powered with two Sterling Petrel engines which drive her at 20 miles



The construction profile, deck plan, and framing plan for the 20-foot racer U.S.A.

U. S. A. AN INTERNATIONAL FLYER

A Racing Design Prepared to Suit the Conditions of the New International Twenty-foot 335 Cubic Inch Class

Designed Especially For MoToR BoatinG

By WILLIAM ATKIN

Part II

SINCE the publication of the lines and arrangement of U. S. A., International 20-foot 335 cubic inch class racing runabout, in the February number, I have had an unusual number of letters from readers of this magazine in connection with the building of her. It looks as though several of these little flyers will be built at Huntington. You see not only is this design suited for racing, but it will also make an excellent runabout. Of course you cannot expect to go roaring down Long Island Sound in any old kind of weather in U. S. A. nor can you do this in any other small fast runabout I have ever seen. But there will be few summer days when she cannot be used in comfort and perfect safety. Fifty five miles an hour is serious going for any kind of boat large or small and is not a thing to be played with. However the knack of handling a fast runabout is quickly gained and with a little experience it is surprising the manner in which a U. S. A. can be driven.

As mentioned in the February number of MoToR BoatinG this little flyer is 20 feet long on deck, 20 feet 1½ inches on the water line, 6 foot breadth with a hull draft of 7¾ inches. She is powered with a motor developing not over 135 h.p. and to the provisions of a very simple and sensible set of rules. See last month's number for complete particulars.

It may not be amiss to repeat again the necessity for laying the lines down full size on the building floor, or better on heavy sheathing paper. The latter is best because then they can be preserved. In laying down the lines of a boat, the lines in profile are drawn first. These require a sheet of paper 40 inches wide and 21 feet long. Thus there will be plenty of width on which to draw the base line and the sheer line with a few inches to spare. Lines are drawn full size exactly like the ¾ inch drawings from which our illustrations are made. All dimensions, however, must be taken from the table of offsets; not scaled from the drawings. One of the objects of laying the lines down is to check the architects lines, another is to familiarize the builder with the characteristics of the boat, the third to bring the thing up to full size so that materials can be gotten out accurately and without waste of time and materials. If the profile is drawn with black pencil, the plan view should be drawn with red and the sections with blue. Saves a lot of confusion this way.

Building a boat of this type requires more care than just a plain runabout. The angle of the planes, the sections and the form of the chine logs are very important. An error here will upset the balance of the craft. So, ye who build, go slow. Haste never yet accomplished anything.

The keel, or rather the three pieces from which the keel is built up should be made from airplane spruce which is a light and very tough wood. Select this from your lumber dealer with a view to its lightness as well as its straightness of grain. There is a big differ-

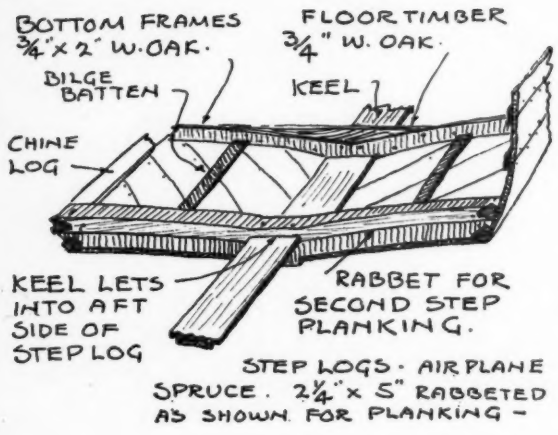

BOTTOM FRAMES
¾"x 2" W.OAK.
FLOOR TIMBER
¾" W. OAK.
BILGE BATTEN
KEEL
CHINE LOG
KEEL LETS INTO AFT SIDE OF STEP LOG
RABBET FOR SECOND STEP PLANKING.
STEP LOGS. AIRPLANE SPRUCE. 2¼" x 5" RABBETED AS SHOWN FOR PLANKING -

FIGURE . 1 →

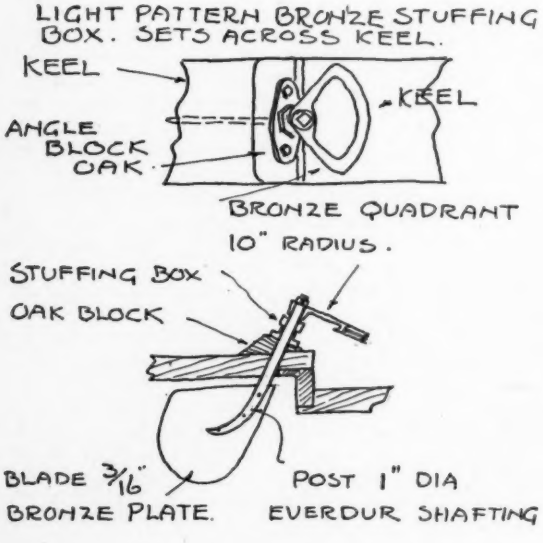
Section at step showing the 3/8 x 3 inch bilge battens, frames and floor timbers

ence in various pieces of this lumber, both in texture and weight.

The fore end of the forward portion of the keel will be tapered as indicated on the plans so as to diminish to the siding of the stem which will be 1⅝ inches. The width of the keel will be 8 inches and it has a 1 inch rabbet into which to let the edge of the garboard planking. The two after lengths will be parallel sided for their full length. Near the stern the after length will be rounded off as shown. The keel outside will be left with corners square below the rabbet. Since the water will flow both aft and out from the center of the keel this step off place will serve as a very efficient reefing step. See Figure 1.

The stem will be made from a hackmatack knee

THE RUDDER -



- FIGURE 3 -

Detail of the rudder mount and stuffing box

1⅝ inches thick and formed as shown in the construction plan. At the stem head it will be moulded 2½ inches, at the water line 3 inches and where it attaches to the keel 2½ including the keel. It will be rabbeted for the planking, which by the way is ⅜ inches above the chine and ½ inch below this point. The stem will be fastened to the keel with ¼ inch diameter bronze bolts; three all told.

The stern post will be made from white oak sided 1⅝ inches and moulded 2 inches. It will be fastened to the end of the keel with a bronze angle piece made from ¼ by 2 inch material. Bolt both to stern post and keel.

The step logs will be made from clear airplane spruce as shown in the construction plan and in Figure 1. The ends of the keel pieces will be morticed into the step logs and fastened with bronze bolts. This work must be nicely done because there is a lot of strain in this part of the boat. The depth of the step is cut into the solid log

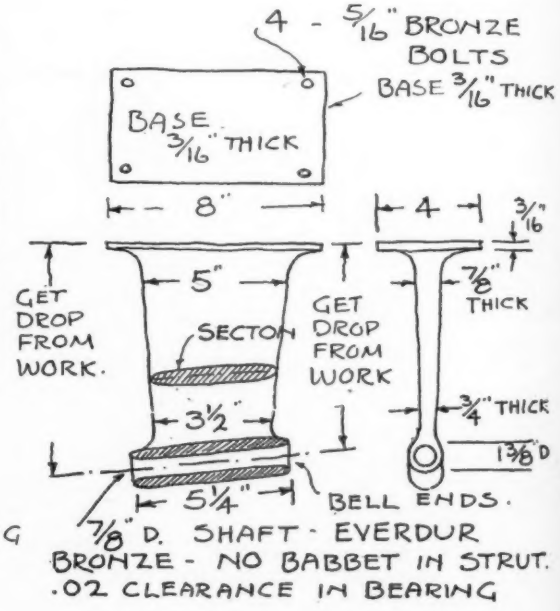


FIGURE 2

Detail of the propeller shaft strut

leaving a landing of at least 1 inch for the planking.

The frames in the bottom will be made from white oak ¾ by 2 inches and will be placed on 20 inch centers, in other words there will be a frame at every station. The very best quality of oak must be used for the frames. If possible select oak that has a sweep in the grain that approaches the hollow in the bottom. I should not attempt to bend the curve in the frames by steaming; they will straighten out.

The frames will be fastened to the keel with 3/16 bronze bolts or copper rivets.

The side frames will be made from white oak and of ¾ inch stuff; 2 inches at the chine and tapered to 1½ inches at the deck. The side frames will be fastened to the bottom frames with ⅝ inch oak knees

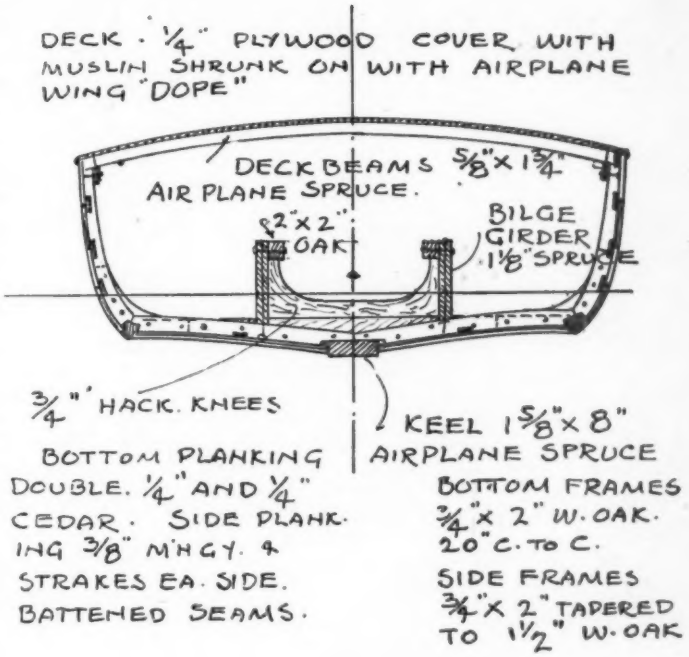
as shown. Fastenings will be copper rivets.

The floor timbers will be made from ¾ inch white oak as shown on the plans. In building, the floor timbers should be fastened to the frames, the knees, fitted, and the whole assembly set up on the keel. I should also fit in the deck beams fastening these to the tops of the frames with copper rivets. Let the deck beams run right across the boat cutting out for the cockpits later. The floor timbers will be bolted to the keel with a single bolt in the center; this will make three fastenings at every set of frames.

The chine logs will be made from airplane spruce rabbeted as shown on the plans and in Figure 1. These must be in a single length. They will be fastened to the knee between the bottom and side frames with 3/16 inch bronze rivets.

Before the planking is applied the engine girders must be fitted. These will be made from 1⅛ inch airplane spruce lightened as shown in Figure 5. Fit the girders over the frames and floor timbers as shown making tight joints of these. There will be a ¼ inch bronze bolt through every frame, these coming in the solid portion of the girders. The after ends of the girders will be tapered to ⅝ inch and steam bent to the form shown. I think it is best to bring these ends together and fasten well to the stern post. There will be an oak block rabbeted to take the aft ends, the former to be bolted to the stern post. Figure 5 shows the method of holding the girders apart and upright.

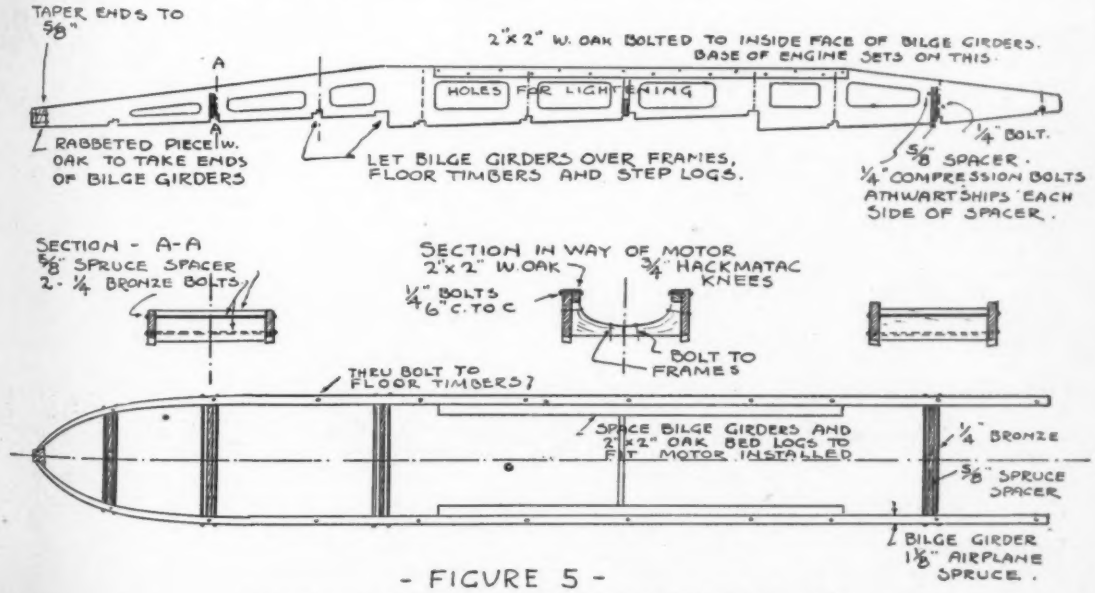
There will be logs bolted to the inside of the bilge girders upon which to set the motor. Now the spacing of the bilge girders and the size of the bed logs will depend upon the motor installed. By adding the bed logs the engine flywheel housing will all come inside the girders. This will permit of adjustment to suit engine.


DECK · ¼" PLYWOOD COVER WITH MUSLIN SHRUNK ON WITH AIRPLANE WING "DOPE"
DECK BEAMS 5/8"X 1¾" AIR PLANE SPRUCE.
2"X 2" OAK
BILGE GIRDER 1⅛" SPRUCE
¾" HACK. KNEES
BOTTOM PLANKING DOUBLE. ¼" AND ¼" CEDAR. SIDE PLANKING ⅜" MHGY. 4 STRAKES EA. SIDE. BATTENED SEAMS.
KEEL 1⅝"X 8" AIRPLANE SPRUCE
BOTTOM FRAMES ¾"X 2" W. OAK. 20" C. TO C.
SIDE FRAMES ¾"X 2" TAPERED TO 1½" W. OAK

SECTION AT STATION BETWEEN 4 AND 5.

Typical midship section of U.S.A. just forward of the step

Before the planking is applied it will be necessary to fit the shaft log and stuffing box shown in Figure 6. This will have to be made especially for U. S. A. and will be of bronze. Do not have a very close fit of the propeller shaft. And do not pack the stuffing box tightly; it will not leak when under way on account of suction behind the step. Fact of the matter is that if you bore holes in the after side of the step the little crate will not leak when *(Continued on page 92)*


TAPER ENDS TO 5/8"
2"X 2" W. OAK BOLTED TO INSIDE FACE OF BILGE GIRDERS. BASE OF ENGINE SETS ON THIS
A
HOLES FOR LIGHTENING
RABBETED PIECE W. OAK TO TAKE ENDS OF BILGE GIRDERS
LET BILGE GIRDERS OVER FRAMES, FLOOR TIMBERS AND STEP LOGS.
¼" BOLT.
5/8" SPACER.
¼" COMPRESSION BOLTS ATHWARTSHIPS EACH SIDE OF SPACER.
SECTION - A-A
5/8" SPRUCE SPACER
2 - ¼ BRONZE BOLTS
SECTION IN WAY OF MOTOR
2"X 2" W. OAK
¾" HACKMATAC KNEES
¼" BOLTS 6" C. TO C
BOLT TO FRAMES
THRU BOLT TO FLOOR TIMBERS?
SPACE BILGE GIRDERS AND 2"X 2" OAK BED LOGS TO FIT MOTOR INSTALLED
¼" BRONZE
5/8" SPRUCE SPACER
BILGE GIRDER 1⅛" AIRPLANE SPRUCE.

- FIGURE 5 -

A detail of the stiffening girders which run the full length of the boat

PETER—A DOUBLE COCKPIT RUNABOUT

A Flashing Little Craft of 21-Feet Length, Designed for Comfort and Speed with Moderate Power

Designed Especially for MoToR BoatinG

By WILLIAM ATKIN

Part 1.

PETER is a runabout that will give service and pleasure to that great group of boatmen who like speed with a good measure of comfort. She has a length of 21 feet over all, a water line length of 20 feet—6 inches, has 5 feet 6 inches beam, and draws 1 foot 9 inches under the propeller. Freeboard forward is 1 foot 9 inches and aft 1 foot 4 inches. Of the moulded section V-bottom type she will be dry and fast.

It is not planned to have a motor of large horse power installed; 40 to 60 h.p. is ample. A motor of the former power turning fast will give a speed of 23 miles an hour while the 60 h.p. unit will give close to 30 miles an hour. The motor will be set in the boat slightly abaft amidships and within watertight bulkheads. There being room then for a forward and after cockpit. The forward cockpit will be fitted with a suitable windshield, a fixture which will be illustrated in Part II of this build a boat article appearing in the next issue of the magazine, April.

A study of the lines will show a flat lined boat that will fly along on an even keel rather than at a sharp angle to the water level. Also since there is a lot of flare to the topsides the boat will have a big righting component. Another thing that makes an able boat is the flare and round on the sections near the stern between the chine and the water line. There will be no tendency for the stern to trip when turning at full speed with the sections shown.

I have kept the bottom of the keel flat for the full length of the boat. In the first place a flat keel makes a better bearing for the weight of Peter when she is hauled out for painting or winter storage. And the flat keel is much stronger than the narrow sharp edged keel often used in the building of craft of this kind. I have noticed so many excellently built runabouts that have the bottom of their keels bashed up badly from one cause or another. Even running a length of half round brass along the bottom of the keel does very little good. It looks best to me to use a wide flat keel just as shown on the plans herewith. Also as mentioned before there is a considerable saving of wetted surface by building with a flat keel that projects half an inch or so below the line of the rabbet.

In laying down the lines that base line is marked first. Now to draw a straight line for over a yard or so is very difficult and so all long straight lines are snapped on the floor with a string. The method of doing this is as follows: drive a nail each end of the base line, then stretch a length of strong string between these nails, pulling this as tight as possible. The string will have been chalked. Now lift the string at about midway between the two nails for a distance of about five inches from the floor, holding it perpendicularly over the floor. Let the string snap and there will be a perfectly straight white line along the floor. This, of course, must be made permanent by tracing over with black pencil.

The L. W. L. and L. Ls. as well as the sheer line will be snapped in the same manner. The deck and water lines must be drawn in by using a supple batten. This should be made from straight grained white pine or spruce about ⅞ inches square. The batten need not be the full length of the boat, but is easier to use if it is so.

The station lines must be erected exactly at right angles to the base line. The first is A. Then 6 inches abaft this, is O; followed at 20½-inch intervals to the stern of the boat; in this case twelve.

From the table of offsets all the heights and half breadths are given. For instance, at Station A the first dimension is 1 foot 9 inches. This is the distance from the L. W. L. to the sheer and since the sheer is a straight line simply run across the table to Station 12 which is 1 foot 4 inches above the L. W. L. The next line on the table gives the measurements from the L. W. L. to the deck crown; the third line the measurements from the Base to the Chine line, and so on. The simplest way to work the thing is to draw each line in as completed.

The half breadths are treated in the same manner. The first line under the heading Half Breadths gives the widths for the center line of the boat to the edge of the deck. As an example: at Station O the half breadth is 0-5¾ which means no feet and 5¾ inches; Station 1 is 1 foot 6½ inches, and so forth across the table. There isn't anything complicated about it at all. A little study will simplify the whole thing.

In laying down a boat of this small size it is best to use a good grade of building paper such as used for insulation between siding and sheathing in buildings. Two strips pasted together to the desired width makes a nice surface for the full sized lines.

Sometimes I wonder why practically all runabouts are finished with varnish. Seems to me that a well painted job looks as handsome and surely gives better service. Yet the varnish wins every time. However, it is a matter of choice and makes little difference in the performance of the boat. If left to my taste I should paint the topsides black, use anti-fouling white composition under the water line; but showing above this point some 4 inches at the stem and 3 inches at the stern. Then I should have the deck laid with white cedar with a ¼-inch mahogany strip separating the planksheers and king plank from the rest of the deck. Varnish the deck. With the mahogany coamings, trim and sheer moulding and you will have individuality and character. Peter will not be just another runabout then.

If used on salt water, and a great many boats of this kind are, you must have a canvas or khaki boat cover that will protect the deck from the weather while at moorings. Also you must keep out rain and bad weather. The cover should be fitted to the boat and extend over the edge of the sheer moulding. A row of small bronze screw eyes under the moulding

MoToR BoA

A 21 Foot D

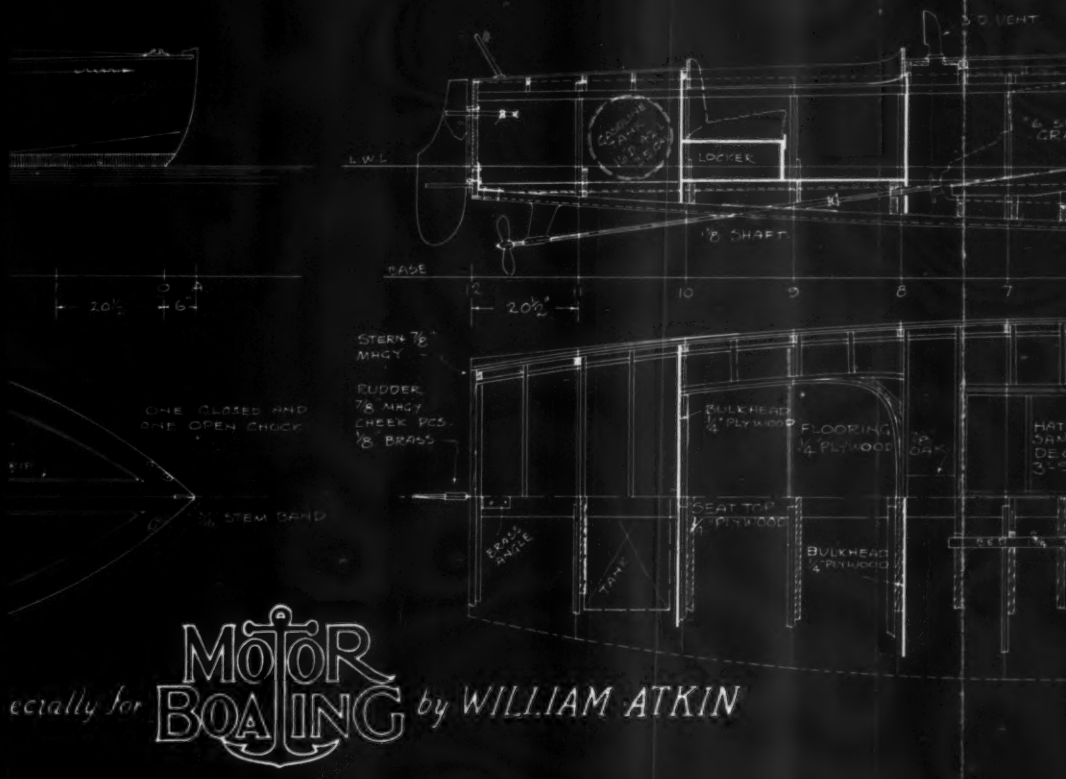
Designed Esp

Scale: ⅜ Inch = 1 Foot

TING'S Build A Boat Seri

"PETER"

DOUBLE COCKPIT RUNABOU

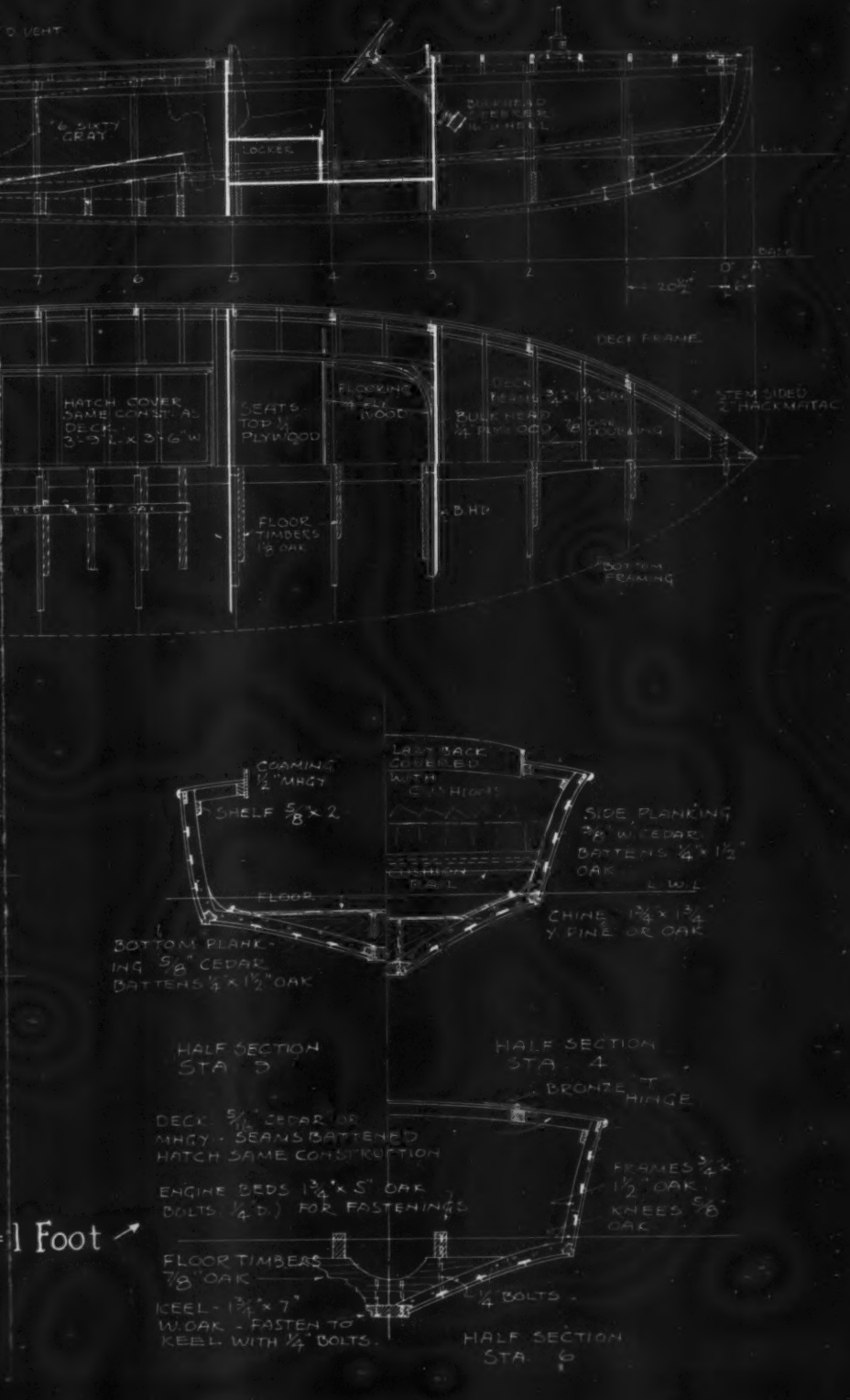


ecially for MOTOR BOATING by WILLIAM ATKIN

Scale: ½ In. = 1 Foot

eries

OUT



l Foot

will be inconspicuous. Then have ties in grommets along the edge of the cover for making the thing fast; 18 inches apart will be the right spacing for these. While it will require a little time to spread and remove the cover, the time so spent will not begin to equal the time spent on pumping out, drying wires, plugs, cushions, and the Lord only knows what else.

While on the subject of moorings it will be worthwhile to mention that it pays to have a mooring that can be depended upon to hold the boat in any weather. Small craft of this type walk all over the place when tied up because of their depth forward and they hold hard. A mushroom is best and this should weigh at least 75 pounds. Use ¼-inch chain from the mushroom to the float, and manila rope ¾-inch in diameter from the float to the mooring bit. There should be a long eye splice in the rope that will permit it to be given two turns around the bit and lead through the bow chock.

Cushions should be made from waterproof cotton duck and filled with kapoc. These imitation leathers are clammy when it is damp and rather heavy. Kapoc filled duck cushions serve as life preservers. All cushions should be made to be readily removable so as to be gotten out for airing or drying. Boats are likely to be wet things at times, you know.

It is a long distance from the steerer to the tiller and I believe the old fashioned tiller lines will be the simplest to install. Like every thing else in the world there are many ways in which various work can be done. Now unless the tiller lines lead through sheaves that are at least 3 inches in diameter you will have trouble with the steering gear. Also the drum on the steering post and the sliding tiller or quadrant on the rudder must be properly made and keyed to their respective shafts. You cannot trust to luck with any part of the steering gear on any kind of a boat, and especially a fast one.

The rudder is outside the stern and can be made from mahogany or bronze, the latter will cost the most, but will not be any more satisfactory. The rudder will be hung on bronze gudgeons and with shoulder eye bolts through the stern; two gudgeons on the rudder and two eyes in the stern as shown. Then a bronze rod is run through these as a pintle. Use heavy bolts and there will be no trouble with the outfit at all.

The gasoline tank will be fitted under the after deck. This will be made from copper 16 inches in diameter and 42 inches long. It will hold 35 gallons, enough for nice long runs. Next month I will show the arrangement for getting at the tank in case of leakage, or other trouble.

There are so few deck fittings that I should by all means have these chromium plated. This process about doubles the cost, but there are only a pair of bow chocks, combination bow light and bitt, hatch hinges and strapping, ventilator, flagpole sockets, gasoline filler plate, and steering wheel.

The strut will be cast polished bronze and shafting 1-inch diameter Everdur bronze. Strut will have single leg and be without babbett. One of the several combination shaft logs and stuffing boxes will be used and this will be fitted inside the keel.

With the bulkheads shown Peter will be very close to unsinkable. There must be plugs near the keel in each bulkhead for draining purposes. These can all be gotten at without much bother.

Peter can be built for between $2,000 and $2,200 depending upon the kind of motor to be installed and the finish and outfit furnished.

Next month I will conclude the story of Peter accompanying this with sketches of various details that should be of interest to the amateur builder. Also there will be a new design of an 18-foot family runabout that should appeal to the man who wants a plain little boat for fishing and day sailing.

Folks who build boats from the plans and descriptions given here would do well to secure blue prints drawn to a scale of ¾ inch to the foot. These can be obtained at moderate cost from the Editor of MoToR BoatinG, 959 Eighth Avenue, New York, N. Y. A circular describing useful books can be had on request.

TABLE OF OFFSETS – 21 FOOT RUNABOUT PETER

STATION	A	0	1	2	3	4	5	6	7	8	9	10	11	12	
HEIGHTS															
L.W.L. to DECK	1-9					ST	RAIGHT							1-4	
L.W.L. to DECK CROWN	0-0	1-9½	1-10	1-10½	1-10½	1-10½	1-10½	1-10	1-9½	1-8½	1-8	1-7	1-6	1-5	
BASE to CHINE		2-3	2-0½	1-10½	1-9	1-7½	1-6½	1-6½	1-6	1-5½	1-5½	1-5	1-4½	1-4½	
BASE to B1			2-0½	1-6½	1-3	1-0½	1-0	0-11½	1-0	1-0½	1-1	1-1½	1-3	1-4	
BASE to B2			3-5½	2-5½	1-8	1-5½	1-4	1-3½	1-3½	1-3½	1-3½	1-3½	1-4	1-4½	
BASE to RABBET		2-0½	1-2	0-10½	0-9½	0-9	0-9	0-9½	0-10	0-11	0-11½	1-1½	1-2	1-3½	
BASE to BOTTOM OF KEEL		1-9	1-0½	0-10	0-9	0-8½	0-8½	0-8½	0-9½	0-10½	0-11	1-1	1-1½	1-3	
BASE to SHAFT							2-1	1-10	1-6½	1-4½	1-1½	0-11	0-8½		
HALF BREADTHS															
DECK		0-5½	1-6½	2-2	2-6½	2-8½	2-10	2-10½	2-10	2-9½	2-8	2-6½	2-4½	2-2½	
L.L. 3.		0-4½	1-4	1-11½	2-4½	2-8									
L.L. 2.		0-2½	1-0½	1-7½	2-1	2-4½	2-7	2-8½	2-9	2-8½	2-8	2-6½	2-4½	2-1½	
L.L. 1.		0-1½	1-0½	1-5	1-10½	2-2½	2-5½	2-7½	2-8½	2-8	2-7½	2-6½	2-3½	2-0½	
CHINE		0-1½	0-9	1-3½	1-8½	2-0½	2-3½	2-5½	2-6½	2-6½	2-5½	2-4	2-3	1-11½	
HALF SIDING BOTTOM KEEL		0-0½	0-0½	0-0½	0-1½	0-2½	0-2½	0-3	0-3					0-3	

Dimensions in feet and inches to outside of planking.

The table of offsets for the runabout Peter gives all essential figures for laying down the hull

SMALL MOTOR BOATS

Their Care, Construction and Equipment

A MONTHLY PRIZE CONTEST CONDUCTED BY MOTOR BOATMEN

Questions Submitted for the May Contest

1. Describe and illustrate the most serviceable and convenient fittings or other treatment for the ends of all ropes, cables and chains used on the average cruiser for the anchor, mooring, mast guys, flags, tender towing, etc.

(Submitted by L. R. K., Philadelphia, Pa.)

2. What is the best method of properly ventilating the toilet, galley and engine compartment on the smaller cruisers, bearing in mind that such a system must be usable in bad weather, not too expensive, and installed so as to function more or less automatically.

(Submitted by V. L. S., Wilmington, Del.)

THE INSTALLATION OF STORAGE BATTERIES

Valuable Pointers on the Methods of Placing and Caring for Electrical Equipment on Small Boats

Answers to the Following Questions, Published in January MoToR BoatinG

Describe and illustrate the best method of installing storage batteries in boats, so as to protect the batteries from water and the hull structure from electrolyte spillage

KEEP BATTERIES DRY

(The Prize-Winning Answer)

WATER, whether it be spray or rain, is harmful to a storage battery. While water is mixed with sulphuric acid to produce the necessary strength of the electrolyte, yet water on the outside of a battery is undesirable.

Water short circuits the cells, produces a shock to the plates and mixing with the electrolyte which may be spilled about the battery, it makes this solution all the more able to seep farther away from the battery box.

Storage batteries demand adequate ventilation, not only for the proper working of the battery, but on account of the danger element which accompanies a non-ventilated battery container.

Even if water could by chance make its way into the battery box illustrated by way of the ventilation holes, it could not reach the top of the battery where it could do harm, but would have to drip to the bottom of the battery box, where its presence would be helpful, as will be seen later.

The holes for the battery cables are just large enough to allow the cables to pass. This and the fact that the holes point downward mean security.

Rolling and pitching of the boat will cause the electrolyte to swash around within the cells, but the most excessive rolling and pitching has not the destructive powers which are occasioned by a battery being allowed to move within its container. Suppose that a battery has a quarter of an inch space between its sides and the sides of its container. The battery will hold its place until an excessive roll causes it to suddenly slip against its container.

The distance is small, but the weight of the battery and the peculiar property of the electrolyte cause it to be violently agitated with little water spouts thrown against the ventilating caps. The same thing obtains when the boat comes in sharp contact with a float.

Retaining blocks in the four corners of the battery container which engage the battery snugly will prevent the condition outlined above, with its consequent spillage of the electrolyte.

Glass is impervious to the corrosive action of sulphuric acid, hence a sheet of plate glass—auto windshield glass—placed in the bottom of the battery container will effectively stop the electrolyte from getting out of the battery container.

Since common baking soda destroys the corrosive effect of the electrolyte, a thin layer of it is sprinkled on the glass bottom around the battery and covered with a layer of caulking cotton, there is little chance for the electrolyte which does get out to make its way beyond the confines of the battery box. The cotton will absorb some of the electrolyte, which will trickle down the sides of the battery and that which it does not catch will eventually be taken care of by the soda.

When the electrolyte mingles with the soda, instead of remaining a strong acid solution, capable of reducing wood to pulp, it becomes an inactive solution which dries rapidly compared to the slow drying out of the electrolyte as it comes from the cells. A small amount of water which under extraordinary circumstances would make its way into the battery box will cause the soda to become more operative, since it would as a solution reach out for the electrolyte in its vicinity rather than await the coming of the electrolyte.

The soda will, of course, cake on the bottom of the battery box, but this will not affect its working powers. The cotton caulking over the soda is not really necessary, but in the case of using the battery box uncovered, as would be the case of an inside, sheltered location, the cotton would keep the soda from being filled with any dust or foreign matter liable to get into the battery box.

It is a good plan to fill the cells with distilled water often, putting in a small quantity of water, just

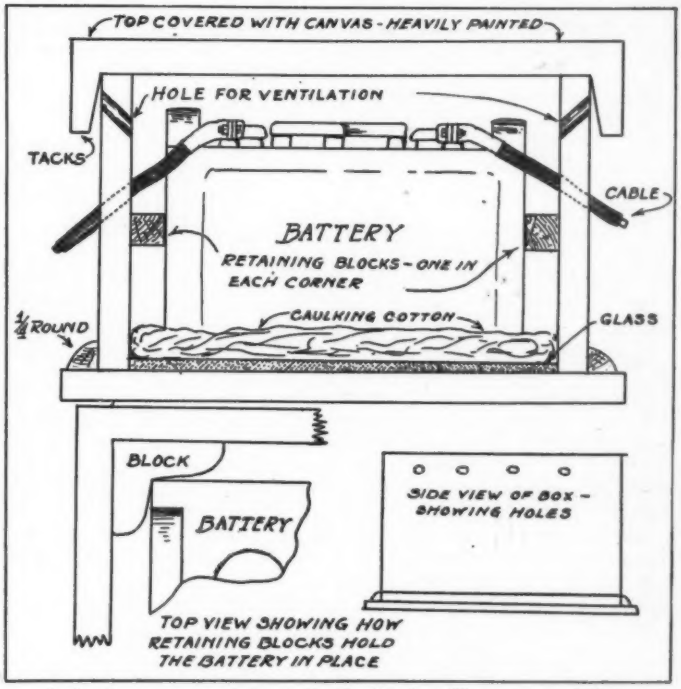
enough to cover the plates by a scant half inch. This practice insures a more uniform condition of the electrolyte and a consequent better average of amount of charge than the practice of waiting until the tops of the plates are dry and then filling the cells as much as they will hold.

While the foregoing applies to the battery in the open boat, the same kind of battery box can be used in cabin boats, but with little need for the cover being used. For outside work the cover should be covered with canvas and well painted.

In locating the battery some locations should be considered undesirable —the nose of the boat, in the extreme bilges and in places where the location is very warm, due either to its proximity to the engine or the exhaust line, as well as near the cabin roof.

Perhaps the best preventive against the damaging effects of spilled electrolyte is to inspect rather than to neglect the battery. A reading once a week is none too often, particularly in the case of the boat which lies unused from one week end to another. This weekly inspection will acquaint one of trouble long before it reaches the serious stage.

J. E. M., Norwich Conn.



A simple arrangement by J. E. M., for installing a storage battery

THE CARE OF BATTERIES

WE call them storage batteries, and, as long as they are fairly dependable and efficient, they might as well be stored in one of the well-known fireproof warehouses ashore. Perhaps this is because they are rather unsightly, and offensive also to touch and smell, due to their prominent chemical natures. The average motor boatman does not care to spend much time around his battery. Moreover, it can not be taken apart or adjusted like mechanical units, so there is slight temptation to tamper with it.

But to keep it harmless and unharmed, the battery deserves certain care and adequate housing. It must have just so much distilled water in it. No amount of rain, spray, bilge, drawing or other forms of water upon it can substitute for this prescribed injection. It should be protected from extremes of temperature. Installing too near an exhaust pipe or a stove is a common mistake. While dirt of many colors and patterns may occasionally exude from it, the battery must be protected from external dirt, oil, gas and grit of all kinds.

Modern boats usually have satisfactory provision for housing the battery in an accessible, yet waterproof or sheltered compartment. Where the craft is large, and unusual capacity is required for distributor ignition, starter motor, numerous lights, signals and power accessories, two or more large batteries, requiring nearly as much space as the motor, may be employed.

The compartment may range from an underseat bracket or saddle to a large metal shelf or bin. Sometimes a few strips of band iron or a dovetailed hardwood box serves as the container. On a small boat a discarded table model phonograph or radio cabinet, stripped of all mechanism, may be used as a battery box. Base screws or bolts should be countersunk, and any interior metal parts removed. Where damp, stormy weather prevails it may be well to provide a canvas or rubber shield for a battery housed in a semi-open deck, hatch or runway. Dimensions and mode of attachment must suit the particular case. Several good acid-resisting paints and lacquers on the market are recommended (*Continued on page* 104)

RULES FOR THE PRIZE CONTEST

READERS are urged to consider the above questions for the May issue, and send answers to them to the Editor, MoToR BoatinG, 57th Street at Eighth Avenue, New York, N. Y. Answers should be (a) in our hands on or before March 25, (b) about 500 words long, (c) written on one side of the paper only, (d) accompanied by the senders' names and addresses.

The names will be withheld and initials used.

QUESTIONS for the next contest must reach us on or before March 15. The editor reserves the right to make such changes and corrections in the accepted answers as he may deem necessary.

The prizes are: For each of the best answers to the questions above, any article or articles sold by an advertiser advertising in the current issue of MoToR BoatinG of which the advertised price does not exceed $25 or a credit of $25 on any article which sells for more than that amount. There are two prizes—one for each question—but a contestant need send in an answer to only one if he does not care to answer both.

For answers we print that do not win a prize we pay space rates.

For each of the questions selected for use in the following month's contest, any article or articles sold by an advertiser aavertising in this issue of MoToR BoatinG of which the advertised prices does not exceed $5, or a credit of $5 on any article which sells for more than that amount.

All details connected with the ordering of the prizes selected by the winners must be handled by us. The winners should be particular to specify from which advertisers they desire to have their prizes ordered.

CONSTRUCTING A SIMPLE PELORUS

Any Skillful Amateur Mechanic Should Be Able to Fashion a Useful Navigation Aid for His Boat

Answers to the Following Question, Published in January MoToR BoatinG

Show how a simple Pelorus may be constructed and also explain its practical use.

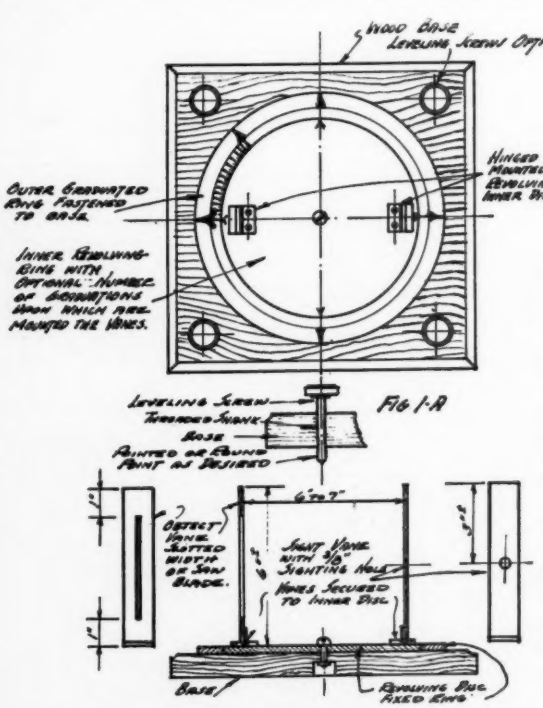
PELORUS—A SIMPLE INSTRUMENT

(The Prize Winning Answer)

THE Pelorus is an instrument which will prove to be of considerable value to the small boat owner to take correct bearings and to determine compass deviation. There are other uses to which it may be put, but as most every book on navigation contains a more or less comprehensive study of its uses, it would be best to dispense with the details of operation and confine ourselves to the subject of construction of this simple instrument.

A Pelorus consists, principally, of a revolvable beam upon which are placed two upright vanes, one having a hole to which the eye is placed; the line of vision directed at the object through a slot in the remaining vane. A narrow slot is more desirable than a wide one having a center hair which has a tendency to blur and make the object less clearly visible. The beam, upon revolving, passes a pointer over a graduated compass card so that, when the desired angulation is obtained, the reading may be taken. Considerable care must be used in making the instrument, as the slightest error in centers will cause inaccurate results.

The most practical arrangement is where the Pelorus may be mounted upon the compass and the readings taken direct. Inasmuch as few small boats have the compass located where an unobstructed plane view from the compass may be obtained, the instrument must be mounted independent so that it may be placed in a satisfactory location.

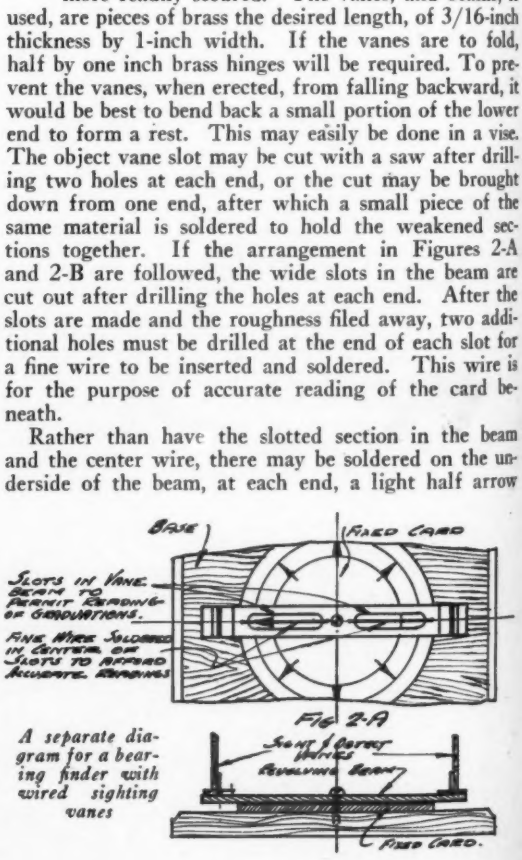

WOOD BASE
LEVELING SCREW OPTIONAL
OUTER GRADUATED RING FASTENED TO BASE.
HINGED VANES MOUNTED ON REVOLVING INNER DISC.
INNER REVOLVING RING WITH OPTIONAL NUMBER OF GRADUATIONS UPON WHICH REVOLVING VANES.
LEVELING SCREW
THREADED SHANK
BASE
POINTED OR ROUND POINT AS DESIRED
FIG 1-A
OBJECT VANE SLOTTED WIDTH OF SAW BLADE.
SIGHT VANE WITH 3/16" SIGHTING HOLE
VANES SECURED TO INNER DISC
BASE
REVOLVING DISC
FIXED RING

H. S. illustrates his pelorus base with fixed and rotating rings

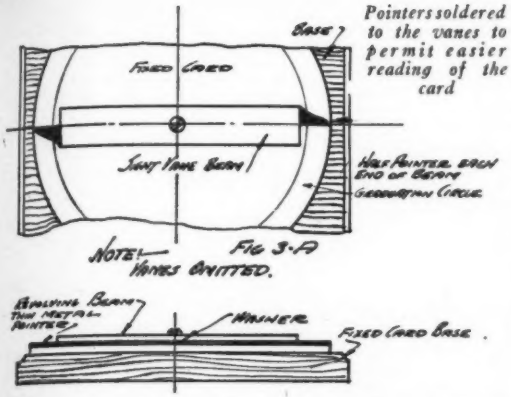
Outside of the vane construction, there are several ways of mounting the card, beam, pointers, etc. It is believed that less trouble will be had in making an accurate instrument by following the general outline as illustrated in plan and section sketches 1-A and 1-B. Here is mounted on a wood base an outer fixed graduated ring, turning on the inside of which is a disc to which the vanes are attached. As the vanes must be located on the exact center line and must be at exact right angles to the center also, they can, by such an arrangement, be more readily attached to the inner disc than upon a beam, as shown in the other details. The one disadvantage is the cutting of the disc and ring, which, to be done so that they will not bind, will take considerable care.

The base should be made of hardwood, mahogany, if obtainable, for a fine finish. The rings, or discs, may be of plywood, approximately one-quarter of an inch thick, or Masonite, which is more readily secured. The vanes, and beams, if used, are pieces of brass the desired length, of 3/16-inch thickness by 1-inch width. If the vanes are to fold, half by one inch brass hinges will be required. To prevent the vanes, when erected, from falling backward, it would be best to bend back a small portion of the lower end to form a rest. This may easily be done in a vise. The object vane slot may be cut with a saw after drilling two holes at each end, or the cut may be brought down from one end, after which a small piece of the same material is soldered to hold the weakened sections together. If the arrangement in Figures 2-A and 2-B are followed, the wide slots in the beam are cut out after drilling the holes at each end. After the slots are made and the roughness filed away, two additional holes must be drilled at the end of each slot for a fine wire to be inserted and soldered. This wire is for the purpose of accurate reading of the card beneath.

Rather than have the slotted section in the beam and the center wire, there may be soldered on the underside of the beam, at each end, a light half arrow


BASE
FIXED CARD
SLOTS IN VANE BEAM TO PERMIT READING OF GRADUATIONS.
FINE WIRE SOLDERED IN CENTERS OF SLOTS TO AFFORD ACCURATE READINGS
FIG 2-A
SIGHT OBJECT VANES
REVOLVING BEAM
FIXED CARD.

A separate diagram for a bearing finder with wired sighting vanes



cut from their bass stock as illustrated in Figures 3-A and 3-B. In this instance, the compass card must be somewhat larger than the one required in Figure 2.

Figures 4-A and 4-B show how the instrument may be set in case and gimbals. To do this, the compass card and disc is cut out to fit the interior of the case, which might as well be a brass clock case The gimbal ring and brackets are made of brass stock of sufficient thickness and width to make the whole substantial.

Where the outfit is to be placed directly on the compass, a slotted brass ring similar to sketch 5 must be prepared, which eliminates the dumb disc and card. The vanes as described will suffice, but the beam should be as shown in Figures 2-A and 2-B.

In conclusion, remember that the parts must all be put together carefully to prevent errors when making observations. H. S., New Orleans, La.

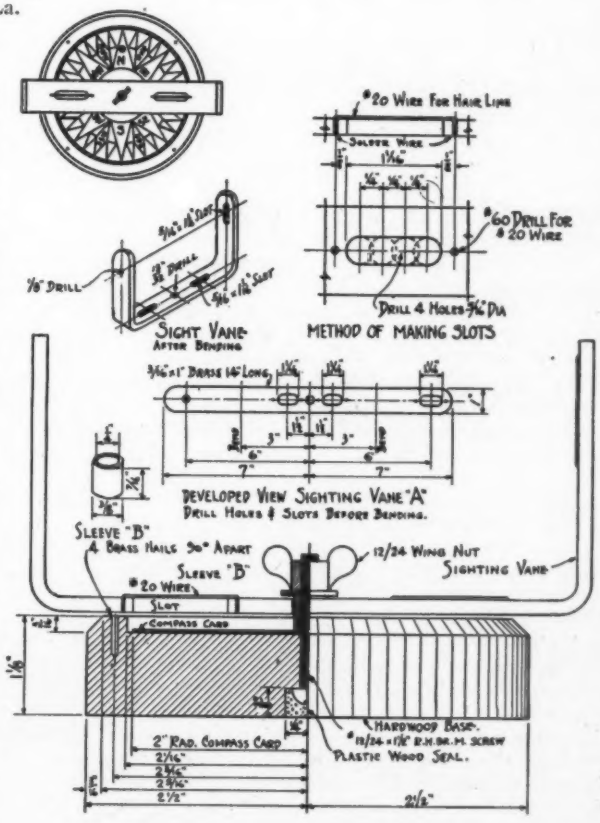
PELORUS TO DETERMINE POSITION

AT some time or other, due either to just plain curiosity or to absolute necessity, it becomes necessary for us to learn our position, and in order to fix this with a fair degree of accuracy, it becomes necessary for us to take observations or bearings of any suitable distant objects on the shore, such as, for instance, lighthouses, buoys, rocks, or in fact any objects which may be indicated on the chart. These observations or bearings are taken with the aid of a Pelorus or Bearing Finder.

The Pelorus is put to use as follows: Find on shore two objects such as a lighthouse, church steeple, or any other object which is indicated on the chart, if possible at least on a 30 degree and not over 150 degree bearing from the boat. Set the Pelorus in some suitable position on the boat so that one set of tacks will represent the bow of the boat exactly as the lubber line of the compass does. The compass card of the Pelorus is then turned so that one set of tacks will be opposite the point on the compass card of the ship's compass, and will thus represent the correct course of the boat at the moment the bearing is taken. Keeping the Pelorus base and the compass card in this position the movable sighting vane is then turned so that a sight of the object is obtained through the hole and slot in the two uprights. The bearing of such object is then read on the compass card below through the slot in the horizontal part of the sighting vane. Then swing the sighting vane around to bear on the second object and obtain a second reading on the compass card below. After these two bearings have been obtained transfer these readings to the chart with your parallel ruler, and where these two lines intersect on the chart, is the boat's position. Be certain to correct the bearings so that they will be either true or magnetic, according to whether they are to be plotted by the true or magnetic compass rose on the chart.

For example, if observed by compass apply deviation and variation to obtain true bearing, or deviation only to obtain the magnetic. Another good method is to set the Pelorus for the true or magnetic, which ever reading is desired and then no further correction is required. The Pelorus may also be used for bow and beam bearing, doubling the angle, and all other methods that are possible with a higher priced instrument.

The construction of the Pelorus will require a hardwood block of about 5 inches diameter. This probably had better be turned to the dimensions on the drawing in some woodworking shop, where this work can be properly done at a small cost. The compass card should have a diameter slightly less than the diameter of the recess turned in the block. The compass card may be home made or, if desired, a compass card may be purchased for a few cents for the purpose. The sighting vane is of 3/16 inch x 1 inch brass about 14 inches long. Lay out the slots, holes and lines for the bends similar to the manner shown in the drawing. Drill the holes and slots before the bending is attempted. In the small No. 60 drilled holes insert a piece of No. 20 brass or copper wire, and after the wire has been well pulled into position the ends are secured by soldering same from underneath the vane. The sighting vane pivots about on the No. 12/14



F. W. L. shows a complete and simple arrangement of useful pelorus

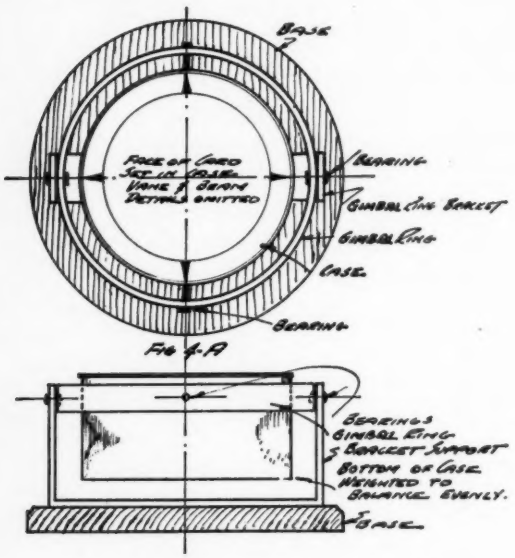
round head brass machine screw and is held in position by means of the Sleeve B and the wing nut. The four tacks are of brass and about 3/4 inches long.

With a little careful work a Pelorus or bearing finder such as is described above will be a fairly accurate instrument and its slight cost will be more than offset by the use of the instrument in fixing the position of the boat.

F. W. L., West New Brighton, N. Y.

THE PELORUS AND ITS USE

IN electrical supplies shops one can purchase what is known as buss bar copper. There are several widths and thicknesses procurable, but the half inch



H. S. shows an arrangement for mounting a pelorus on gimbals

bar, one-sixteenth of an inch in thickness will suffice to make most of the parts of the pelorus illustrated.

From it can be made the sight vanes, the center strengthening ridge, the pointer, the gimbal rings, the outer gimbal support and its accompanying socket in the pelorus box, practically all the essential parts of the pelorus.

The instrument can be made in any size, the larger the easier can the bearings be taken with it, but one having a compass card of five inches in diameter and a distance between the sight vanes of eight inches will answer all purposes.

The sight vane is bent to shape after a 13/64 inch hole has been drilled at the center point and a hole in each end has been bored to receive an ordinary brass screw eye. This latter hole is bored large enough to receive the screw end easily and then it is sweated in place.

A piece of No. 22 copper magnet wire is soldered as shown, slight grooves having first been made with a three cornered file into which the ends of the wire can be recessed. Do not sweat the wire in place before the screw eye is fastened into position since the sweating in of the screw eye will be apt to disturb the position of the wire, which should be exactly in line with the center line of the sight vanes.

The inner and outer rings are made by butting the ends as the bars are bent into a circle. The joints so made are lapped with light sheet copper or brass and soldered.

Two holes 180 degrees apart receive two ordinary 2-inch copper wire nails soldered therein with their heads flush with the inside surface of the ring. These nails fit in holes bored in the outer ring.

The outer ring support is made of bar stock soldered to the outside surface of the ring, the lower edge of this support being filed to a knife edge which in turn rests upon a V-shaped receptacle made of the same bar stock and fitted into the sides of the box as shown in Fig. 4 at A and in the detail at A.

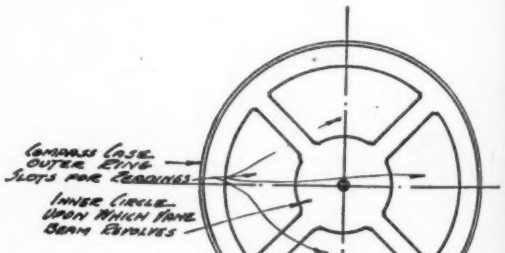
The center strengthening ridge is soldered to the base of the sight vanes and then a 13/64 inch hole is bored at its center point, to engage with its corresponding member the 1/4-inch brass rod which acts as an axis. A pointer of the same bar stock is soldered to the under side of the sight vane base. It is pointed at its free end and clears the compass card by the smallest margin in order to facilitate the ready reading of the bearing taken.

The sight vane axis is fitted securely into a hole in the circular piece of wood which acts as a table for the moveable compass card. This circular piece of wood fits snugly the inner ring and is secured to it by three screws.

The movable compass card is made of zinc. It should move freely around the sight vane axis. A small hole is bored at the point designated north, the purpose of this hole being explained later.

The component parts can now be assembled and the lubbers point can be considered along the lines of the supporting nails at the points B-B.

This pelorus can be used in any part of the boat provided it is set up with its fore and aft line corresponding to that of the steering compass. If the steering compass is so located that from it an unobstructed



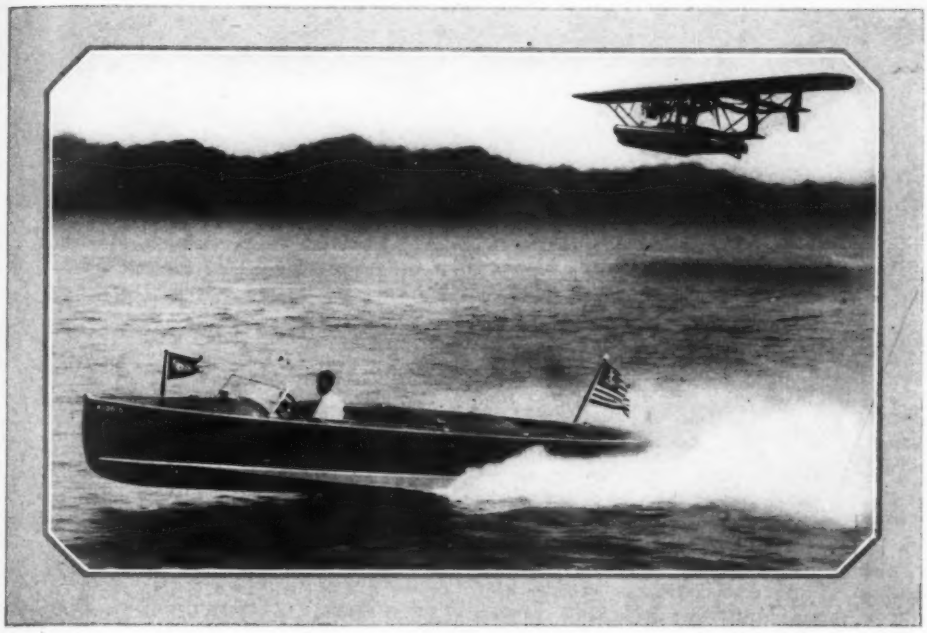
A detail for a mounting ring to go directly on the compass

FIG 5- RING FOR MOUNTING VANES & BEAM ON COMPASS CASE FOR DIRECT BEARINGS.

view of the horizon can be obtained, the sight vane can be made as suggested, but its support can be two sections of bar stock made as shown, the ends of the supports be bent to clamp over the edges of the compass.

The full use of the possibilities of the pelorus entail more knowledge of nautical astronomy than the average motor boat enthusiast brings to his hobby. However, the merest amateur can easily learn how to use it in taking cross bearings, two bearings of the same object or in running a four point bearing, all of which can be variously applied in the piloting of a boat.

We will suppose that the pelorus of Fig. 4 is used. It is set up in a place which commands an unobstructed view of the horizon. Dowels set in the bottom of the box and fitting into holes (*Continued on page* 100)



The Sikorsky Aviation Corp. uses this Sea-Lyon 35 in testing models of their amphibian planes and in other development work

YARD AND SHOP

Notes of Interest to Both Owner and Manufacturer

SALLY TOO REBUILT

SALLY TOO, the 35-foot step hydroplane built by the Luders Marine Construction Company for Austin Feuchtwanger of Riverside, Connecticut, has been recently repowered and converted to a Vee-bottom craft by the original builders.

Originally Sally Too was capable of 60 miles an hour as a step boat with her 500 h.p. low compression Wright Typhoon motor and showed exceptionally fine performance as a racing craft. However, water conditions were generally quite rough where the boat was in use and the owner decided that a family boat would be more desirable than a strictly racing craft.

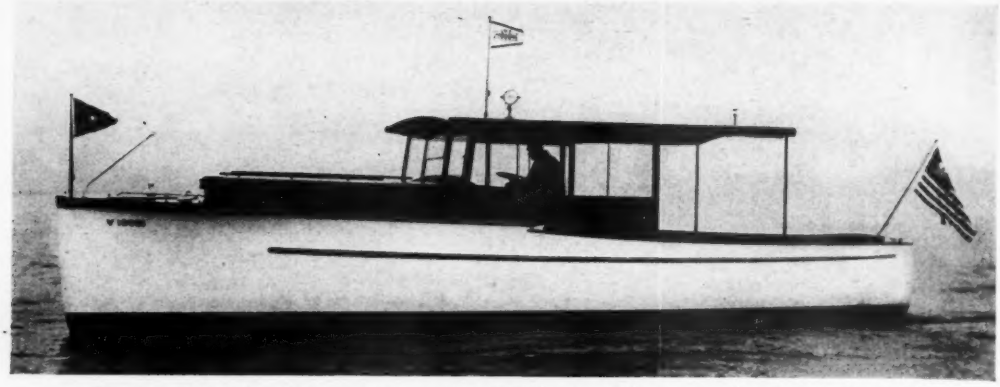
Luders accordingly was called upon to rebuild the boat, which meant putting in a V-bottom and the installation of a pair of Sterling Petrel motors. A trial run, staged a short time ago on a winter's day, proved highly successful, with Sally Too making a shade under 43 m.p.h. and maneuvering perfectly under the urge of her twin Sterlings.

NEW ELCO 38-FOOT FISHERMAN

The Elco Works, following a long period of experimenting, has brought out what they believe is an ideal combination of a comfortable, seaworthy cabin cruiser and a convenient well equipped fishing boat. The new craft is an adaptation of the already famous 38-foot cruiser—the boat on which Colonel Lindbergh and his bride spent their honeymoon.

Two of the new boats, to be known as the Elco 38-Foot Fisherman, have already been completed. One of them has been delivered to A. R. Erskine, president of the Studebaker Automobile Corporation, while the other is destined

Austin Feuchtwanger's Sally Too, converted by Luders from a step hydroplane to V-bottom, and repowered with Sterling engines



The new Elco 38-foot fisherman has complete facilities for fishing, yet retains the roominess and convenience of a standard cabin cruiser

to journey all the way to Hawaii for delivery to an executive of one of the largest pineapple companies on the island.

The hull and forward part of the new fisherman are similar to that of the standard 38-foot cruiser, with a spacious cabin sleeping four, an ample galley, lavatory and storage space. The after cabin has been eliminated and the space devoted to an unusually large cockpit. This is arranged with two swivel chairs at the after end, with a bait well between them.

Aranel II, built by the Almac Yacht Corp. for R. S. Rhodes of Miami Beach, is a 50-footer powered with a pair of Sterling Petrels

At the forward end of the cockpit on each side are boxes provided with cushions to form seats. One of these boxes is metal lined and drains overboard, and is used for holding the catch. The other is simply a dunnage box. Chairs and boxes are all removable so that for ordinary service a large party can be comfortably seated in chairs.

The bridge deck is somewhat shorter fore and aft than on the standard model. It is located at a higher level than the after cockpit and the engine under it is reached through a large hatch at its after end. Wheel and controls are of the automobile type and the helmsman is seated with a companion in a comfortable upholstered seat similar to that of an automobile. The entire bridge deck is enclosed with a permanent windshield structure having sliding windows so that in bad weather full protection is obtained.

The two boats just built will be powered with the Elco model F-62 six-cylinder 125 h.p. engine, which will produce a speed in excess of 15 miles an hour. One boat, in addition, has an auxiliary power plant consisting of a small 4-cylinder Elco Gray engine set to one side and having its own shaft and propeller, which will be of the feathering type universally used on auxiliary sailing craft. This small engine is capable of giving the boat a speed of 6 or 7 miles an hour, and of being throttled down to a very low speed for trolling.

GOVERNMENT TOWBOATS USE WINTON DIESELS

Two new towboats, Captain George and Beverley, designed for towing government dredges in the service of the U. S. Engineers, were recently completed and delivered to the government by the Charles Ward Engineering Works, Charleston, West Virginia. The two boats are sister ships 65½ feet in length, 18 feet, 4 inches beam and 7 feet 7½ inches draft. The main power plant in each boat consists of a six-cylinder airless injection Winton Diesel engine developing 235 h.p. at 350 r.p.m. Successful trial runs were conducted and immediately thereafter both boats started on long journeys. Captain George's run took her on a 2,200-mile course down the Kanawha, Ohio and Mississippi Rivers to New Orleans and across the Gulf of Mexico to her destination, Galveston, Texas, averaging 9½ knots. The new tug completed the trip in fifteen days with the surprisingly low fuel consumption of 7½ gallons of oil per hour and only six gallons of lubricating oil for the entire trip. The other boat, Beverley, also gave a remarkable demonstration of operating economy on her run to her destination, the U. S. Engineers office, Philadelphia. She pursued the same course down the Mississippi to New Orleans and from there along the southern coast, around (*Continued on page 62*)

One of two new tugs built for the U. S. Engineer Department. A six cylinder airless injection Winton Diesel supplies 235 h.p.

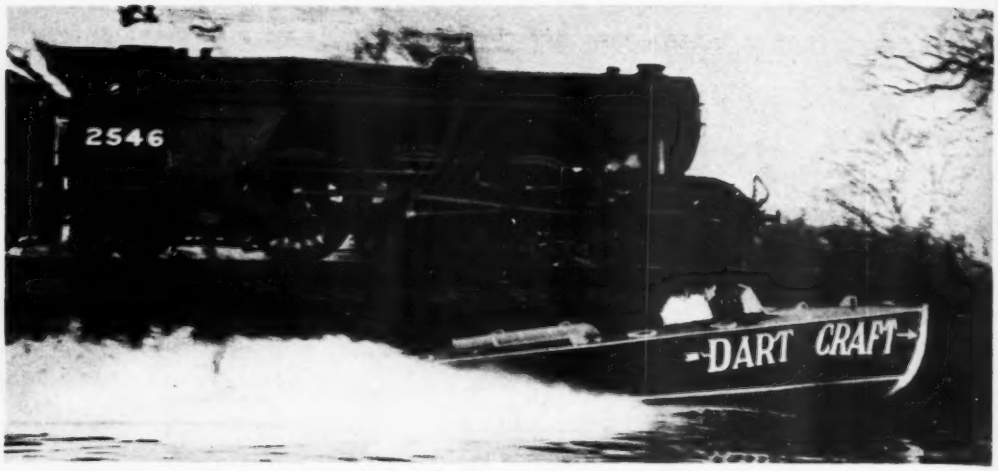
Land Ho! And Ovington's China in sight!

MANY a brave old soup tureen lies asleep in the deep... many a battered bit of crystal rests forty fathoms down . . . dropped to an aqueous oblivion because they had served too long and never too well! For the sea has discovered itself socially and its salt-bitten skippers and spray-drenched commodores are just as finicky about their china as they are about their ropes, as fastidious about their crystal as they are about their brass work. Down, down to Davey Jones they've sent the goblets and platters they shanghaied and press-ganged from the family pantry. And straight they've steered to Ovington's for china born to the wind and the wave, crystal as nautical as the captain's gig. It's not expensive. For as little as $63 you can garner china for six, every piece blazoned with your own and your club's insignia. For even less you can choose splendid crystal. We'll gladly submit designs and estimates.

OVINGTON'S

437 FIFTH AVENUE, NEW YORK

Telephone: Caledonia 8700



International Newsreel

J. W. Shillan, English distributor for Dart runabouts tries his craft against the speed of The Flying Scotsman where the rails parallel the river Ouse for several miles

YARD AND SHOP

(*Continued from page 60*)

Florida and up the Atlantic, total of 4,500 miles in thirty-five days, including stops at several points. Her average speed was ten knots and her fuel consumption eight gallons of fuel oil per hour.

WORLD'S SPEED CLASSICS TO BE ON WATER

Nearly all racing classics in 1930 will be on the water. Water classics will include the Gold Cup, the Harmsworth Trophy, the America's Cup and the President's Cup races, further augmented by the Duke of York Trophy races in England.

Late in the summer, the Gold Cup, historic American speed boat trophy, will be defended by Richard F. Hoyt, representing the Columbia Yacht Club on the course at Red Bank, N. J.

In the last week-end of August, three English challengers will bring as many high-powered hydroplanes to this country in an attempt to lift the Harmsworth trophy, held continuously in this country since 1921.

For the first time in nine years, American motor boat representatives are quite of the opinion that the British International prize may be lost to this country. Miss Marian B. Carstairs, making her third invasion, will appear at Detroit with a new twin-motored challenger. Sir Henry Segrave will bring the most powerful speed boat ever built and Hubert Scott-Paine will enter the races with a revolutionary, single-engined craft.

In this country, Gar Wood has only Miss America VIII, a craft probably not capable of more than 103 miles per hour as a maximum. It is said that the Parkard engineers are considering the development of a 1,500-horsepower engine which will give the American veteran 3,000 horsepower as compared with 2,200 now used. Sir Henry, however, will have more than 4,000 horsepower in a pair of Rolls Royce motors and Miss Carstairs will have 2,400 in the pair of Napiers she will use.

Should Packard have the motors ready in sufficient time, it is rumored that Gar Wood will build two additional boats to have Miss Americas VIII, IX and X in the field to meet the British trio. Should he do so, it is quite probably that one will be driven by the defender, one by his brother, George Wood, and one by Richard F. Hoyt, owner of Imp and holder of the Gold Cup.

In addition, there is reason for belief that James A. Ta Jr., will place another boat in the field to succeed Miss L Angeles II, but to enter the race, he must survive elimina trials, if Gar Wood provides three boats. The rules state t no country may enter more than a trio of challengers or d fenders in any one race.

CANADA LARGEST PURCHASER OF MARI EQUIPMENT

Canada was the largest single purchaser of motor boats a engines for the month of November, 1929, according to a re just released by the Department of Commerce. The Bri West Indies is second on the list, Soviet Russia in Europ third, Australia fourth and Argentina fifth.

THREE NEW SHOW ROOMS OPENED IN NE YORK

New York City, where there was only one marine show ro seven years ago, will have approximately twenty display ro within a short time as a result of the interest shown by p chasers at the recent Silver Anniversary Motor Boat Show.

New show rooms are being opened by the Horace E. D Boat & Plane Corporation, the Chance Marine Constru Company and Banfield Sea Skiff, Inc.

GAR WOOD MAY TRY FOR 100 M.P.H.

A speed of one hundred miles per hour on the water s become a reality before the winter has closed, accordin representatives of Gar Wood, veteran American driver. said that Wood will ship the hydroplane, Miss America V to Miami Beach in time to try for a new world's record du the regatta there, March 25 and 26.

The present record of 93.123 miles per hour, established the same course a year ago, was set by Miss America Although the newer boat is given credit for successful del of the Harmsworth trophy, the craft has never been use mile trials and no correct estimate of her speed has ever gained.

(*Continued on page* 114)

Two of thirty boat loads of Washington, D. C., newsboys enjoying their first speedboat ride in Baby Gar runabouts

Vinyard

FIFTY-FOOT
TWIN-SCREW MOTOR YACHT

For Your Contentment

Frigidaire.

Automatic water pressure system, hot and cold.

Tub and shower.

Permanent rest couch in cockpit.

Guest room for two entirely private.

Three real beds that are forty-four inches wide

Vibrationless beyond belief.

Polished mahogany joiner work with harmonizing carpet, draperies and lighting fixtures.

A roomy enclosed bridge deck house that will meet with your approval.

Mr. Wilson M. Vinyard of the Vinyard Ship Building Co. asks that you please forget all that you may have experienced or read about boat trips until you have made a trip in the Vinyard, "50" or "55."

He will be glad to have you as his guest on a trial of the Vinyard "55" any time that may suit your convenience in the next sixty days, you to be the sole judge; no obligation.

STANDARDIZED—yet the yacht of your dreams. After a trip in a Vinyard Cruiser you realize that, *Boat Dreams—Do Come True.*

You know that in the designing of these cruisers, each detail contributing to your enjoyment and safety has been arranged—in a way to make assurance doubly sure.

For Safety

Sides of the bridge deck house and after cabin, have double sides with studding between, mortised top and bottom.

Tobin bronze shafts—each in one piece.

One piece white oak keel, that extends aft—protecting propellers and rudder.

Fuel tanks—aft in separate watertight compartment.

Fuel—taken from the top of tanks, no bottom connections.

Access to deck from forward or after cabins—convenient and safe.

Automatic foamite fire protection.

VINYARD SHIP BUILDING CO.

Designers and Builders of Yachts and Cruisers of the Highest Class

MILFORD, DELAWARE

CALENDAR OF COMING EVENTS

March 25-26—Miami Beach Regatta. All classes and outboards.—C. F. Chapman, Hotel Flamingo, Miami Beach, Fla.

April 10-13, Charleston, S. C. 250th Anniversary Celebration, Outboard regatta.

April 26—Albany-New York Race, Outboard Classes B, C and D E. Div. 1, 2 and 3 in each class.—Haynes Griffin Co., 41 W. 43rd St., New York City.

April 24-25-26-27—Long Beach, Calif., to San Francisco—D. M. Callis, 106 East C Street, Wilmington, Calif.

May 16-17—Intercollegiate Outboard Races—Colgate Outing Club, Hamilton, N. Y.

May 30—Westerly Boat Club, Westerly, R. I.—E. V. Howe, 663 Thames St., Newport, R. I.

June 15—Camp Slocum, Kickamuit River, R. I.—E. V. Howe, 663 Thames St., Newport, R. I.

June 22—Fall River Yacht Club, Tiverton, R. I.—E. V. Howe, 663 Thames St., Newport, R. I.

July 4—Westerly Boat Club, Westerly, R. I.—E. V. Howe, 663 Thames St., Newport, R. I.

July 7-19—Observation Races for the several contenders for the defense of the America's Cup.

July 12—Block Island Race for Cruisers, 100 N. Miles. New York Athletic Club—F. W. Horenburger, 959 Eighth Ave., N. Y. City

July 13—Lake Winneconnet, Taunton, Mass.—E. V. Howe, 663 Thames St., Newport, R. I.

July 13—Interlake Yachting Association Regatta at Put-in-Bay, Ohio.

July 18-19—Portland, Me., Regatta—A. L. Anderson, Camden Yacht Club, Camden, Me.

July 22—Augusta, Me., Regatta—A. L. Anderson, Camden Yacht Club, Camden, Me.

July 25-26—Camden, Me., Regatta—A. L. Anderson, Camden Yacht Club, Camden, Me.

July 25-26—Newport, R. I.—Dr. H. P. Beck, Newport, R. I.

July 31-Aug. 2—Bay City, Mich. Eastern Michigan Water Carnival, Outboard regatta

August 2-3—Stone Harbor, N. J.—Dr. Wm. Haines, Medical Arts Buildings, 16th & Walnut Sts., Philadephia, Pa.

August 8-10—Miles River Yacht Club, Miles River, Md.

August 10—Camp Slocum, Kickamuit River, R. I.—E. V. Howe, 663 Thames St., Newport, R. I.

August 16-17—Gold Cup Regatta, Red Bank, N. J.—Comm. Gerald Holbrook, Red Bank, N. J.

August 20-30—Official Trial Races to select the defender of the America's Cup against the challenge of Sir Thomas Lipton.

August 24—Lake Winneconnet, Taunton, Mass.—E. V. Howe, 663 Thames St., Newport, R. I.

August 29-September 1—Harmsworth Trophy Race, Detroit, Mich.—W. D. Edenburn, General Motors Bldg., Detroit, Mich.

September 1-2—Rhode Island Yacht Club, Providence, R. I.

September 5-6—Middletown, Conn. International Outboard Championship.

September 6-7—Cincinnati, Ohio—E. C. McHugh, Times Star Bldg., Cincinnati, Ohio.

September 7—Westerly Boat Club, Westerly, R. I.—E. V. Howe, 663 Thames St., Newport, R. I.

September 12-13—Presidents Cup Regatta, Washington, D. C.—W. A. Rogers, Washington, D. C.

September 13—Races for the America's Cup. American defender and Sir Thomas Lipton's Shamrock V.

RACING IN EUROPE

Union Internationale de Yachting Automobile

May 18—Holland, Outboards circuit of the Grand River.

May 27-June 2—Germany, at Berlin, Potsdam. All classes.

June 15—Belgium, Brussels. All classes.

June 26-27-28—England, Thames. Duke of York trophy and outboards.

July 7 and 15—France, Herblay. All classes and outboards.

August 3—Sweden, Stockholm. All classes.

September 18-22—Italy, Venice. All classes.

MOTOR BOAT SHOWS

March 22-29—South Atlantic Motor Boat Exposition, Washington Auditorium, Washington, D. C.

March 29-April 5—Los Angeles Boat Show, Ambassador Auditorium, Los Angeles, Calif.—Waldo T. Tupper, Manager, Ambassador Auditorium, Los Angeles, Calif.

March 29-April 5—Detroit Motor Boat & Sportsman Show, Detroit, Michigan—H. H. Shuart, 5-219 General Motors Bldg., Detroit, Mich.

April 15-20—Northwest Motor Boat Show, Seattle, Wash.—S. O. B. Miller, 63 Columbia St., Seattle, Wash.

April 23-30—Pacific Coast Boat Show, San Francisco, Calif., 417 Market St.

April 25-May 3—Spring Motor Boat Show sanctioned by National Association of Engine and Boat Manufacturers, Navy Pier, Chicago, Ill.

EVENTS IN FLORIDA

Florida Outboard Motor Association

March 8—Mt. Dora, Fla.

March 15—Sarasota, Fla.

March 23-24—Palm Beach, Fla.

April 3—St. Augustine, Fla.

April 4—Jacksonville, Fla.

DELAWARE RIVER EVENTS

Delaware River Yachtsmen's League

June 21—Dual Class Regatta, Forest Hills Y. C. and Farragut Sportsmen's Assn., Camden, N. J.

June 28—Dual Class Regatta, Riverside Y. C. and Westville P. B. A. at Riverside, Essington, Pa.

July 4-5—Municipal Regatta, auspices Trenton Yacht Club, trophies by City of Trenton—Outboards, speedboats and cruisers.

July 12—Speedboat Regatta, Delaware River Y. C., Torresdale—John Wanamaker, Jr., trophy races.

July 13—Cruiser and Cabin Boat Championships of Delaware River—Wissinoming Y. C.

July 19—Annual Outboard and Speedboat Regatta of West End B. C. Chester, Pa.

July 26—Outboard and Speedboat Regatta of Keystone Y. C. and Delaware River Outboard Motorboat Assn., at Tacony.

July 27—Special Keystone Y. C. Cruiser and Cabin Boat Regatta, Tacony

August 2-10—Annual Chesapeake Bay Cruise of Riverside Yacht Club.

August 8-9—Third Annual Philadelphia Outboard Regatta on Schuylkill River for $6000 Sir Thomas Lipton trophy.

August 16-17—Canoe championships of Eastern Canoe Association, and Outboard and Speedboat Regatta, of Anchor Yacht Club, Bristol, Pa.

SOUTH JERSEY EVENTS

Martin N. Fritsch, Box 325, Mays Landing, N. J.

June 7—Reeds Beach, Delaware Bay

May 30—Mays Landing, N. J.

June 15—Laurel Lake, Millville, N. J.

June 21—Atlantic City, N. J.

June 22—Somers Point, N. J.

July 4—Chestnut Neck, N. J.

July 5—Lu Lu Yacht Club, Atlantic City, N. J.

July 12—Wildwood, N. J.

July 19—Cape May, N. J.

August 2—Port Norris, N. J.

August 3—Avalon, N. J.

August 9-10—Stone Harbor, N. J.

August 16—Brigantine, N. J.

August 23—Ocean City, N. J.

August 30—Margate Longport, N. J.

September 1—Lower Bank, N. J.

September 6—Mays Landing, N. J.

CALIFORNIA REGATTAS

A. L. Bobrick

111 Garey St., Los Angeles, Calif.

May 3—Alamitos Bay, Long Beach, Calif.

July 4—Alamitos Bay, Long Beach, Calif.

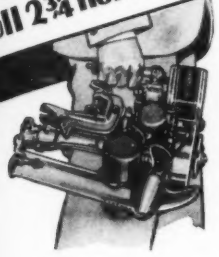
August 10—Balboa, Calif.

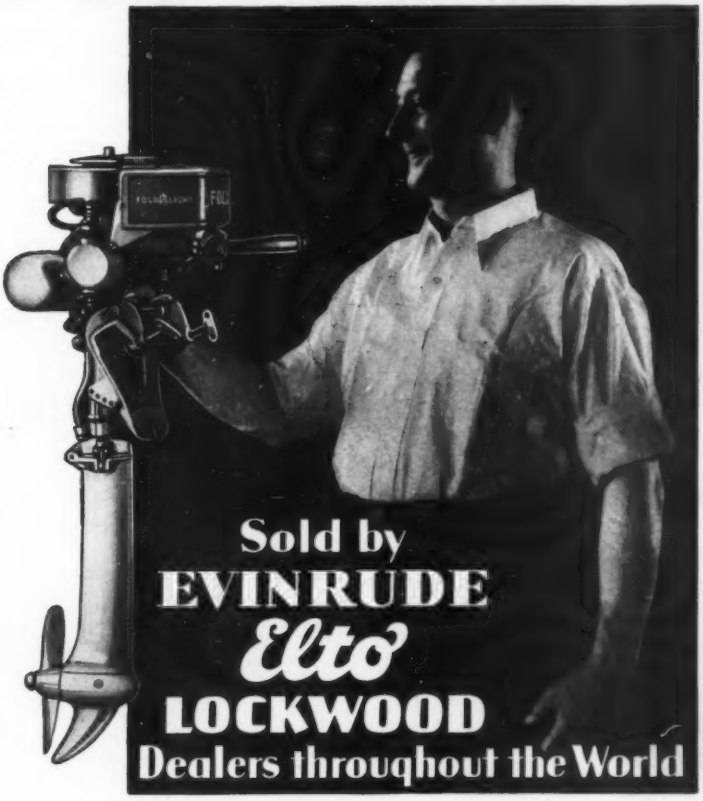
September 9—Admission Day—Lake Merritt, Oakland, Calif.

November 29—Salton Sea, Calif.

December 6-7—Lake Elsinore, Calif.

World's Lightest Twin Outboard





THIS is the new motor that all outdoor America is talking about! The motor that at the start of its first season is being ordered in greater numbers than any other model of any make!

No other has ever offered its advantages. It's a feather weight to carry — scaling at only 29 pounds. It *folds* — simply, easily, instantly — then measures only 17 inches high. Its steering handle snaps to place as a carrying grip. Carries lightly, comfortably; stows anywhere.

Its 2¾ horsepower is generous power for all small craft — family boats, fishing boats, yacht tenders. Twin cylinders give smooth performance; twin silencers assure quiet. Few motors at *any* price match it in advanced mechanical features, including direct lubrication system to bearings and power head cushioned in rubber ~ ~ ~ Know the full story about this remarkable motor. Write for catalog today.

OUTBOARD MOTORS CORPORATION, Ole Evinrude, *President*
5120-27th Street, Milwaukee, Wisconsin

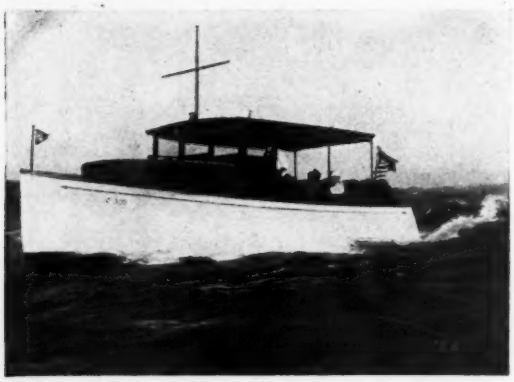
FOLD-LIGHT

OUTBOARD MOTORS CORPORATION

OUTBOARD MOTORS CORPORATION,
5120-27th Street, Milwaukee, Wisconsin
Gentlemen: Send me your catalog describing the FOLD-LIGHT.
Name.....
Address.....
City.....
State.....

Again the Show

GRAY MOTORS were shown in more nationally advertised stock boats at the New York Show than any three other makes of motors in their class.



Again the New York Show gave overwhelming proof of Gray supremacy in the marine engine field.

It was a Gray show throughout. Gray motors everywhere. Visitors were quick to recognize the fact and quick to comment.

In boat after boat, the Dependable Gray appeared as the best evidence the builder of the craft could give that his product was made for *years and years of thrilling boating pleasure.*

GRAY means that to a boat.
And builders know it.
And the buying public knows it.

The stock boats at the New York Show powered by Gray were the recognized leaders in their classes.

And Boat Buyers! In making your selection for 1930 Craft accept the presence of the Dependable Gray Power Plant as the final clinching proof that the BOAT IS RIGHT.

TOP PHOTO
Richardson Double Cabin Cruisabout with Gray "6-61" or Gray "Eight" power.

MIDDLE PHOTO
Hacker 35-mile 24-footers with New Gray "8" and Downdraft Carburetion.

BOTTOM PHOTO
No. 9 Dee Wite High Speed Runabout with Gray "6-70" in stern position, using Gray Vee Drive Unit.

Advertising index will be found on 3rd last page.

Goes GRAY!

More GRAY Engines displayed at the New York Show than any other make of motor.

It was not by accident that the 1930 Gray Line of Motors held the spotlight every day of the show, and kept the crowds talking Gray. There were good reasons for the interest expressed.

There were Eight Great New Motors that held news value for every marine man and occupied the attention of thousands.

The Gray Twin Eights took the show by storm and merited a separate booth where the interested crowds might have had better opportunity for closer inspection.

The Complete Gray Line of 20 Gray Motors—a motor for every boat—represented in its entirety such a display as no other show had ever witnessed. 20 Great Gray Motors—every one backed by the reputation of Gray and 27 years of engine building.

The Gray Vee Drive—the greatest step forward in decades in the application of Marine Power—proved another magnet that drew other thousands to hear the story of "added cockpit space, drier boats, greater maneuverability and added speed" that is made possible by stern installations.

It was a Great Gray Show, presaging another Great Gray Year.

Write NOW for information on the 1930 Gray Line. Your postcard will bring catalogs and facts. Send 25c for Gray's New Book of Boats. Instruction Book now ready for old customers.

Gray Marine Motor Co.
600 Canton Avenue • Detroit

Gray Marine Motor Co. of Canada, Ltd.
77 Adelaide St., W. Toronto, Canada

GRAY "4-60." 3 medium size, high speed, smooth-running six for runabout, sedan engine. 48 H. P. at 4,000 R. P. M.
GRAY "6-72." Standard speed-power unit ACF 10 footer. 5½" bore, 7½" stroke. Develops 90 H. P. at 3,000 R. P. M.
GRAY "6-70." Hi-speed style of the "6-60" motor. 75 H. P. at 3,000 R. P. M. 570 lbs.
GRAY "6-40." Short one, lighter, houses 4 above centre of shaft). and Best Six in its power class. Develops 48 H. P. at 3,000 R. P. M.
GRAY "4-60." famous for brute strength and dependability. Develops 55 H. P. at 1,300 R. P. M. 50½" overall. Bore increased to 4½", stroke 6"
GRAY "4-30." 42" over all, 3½" bore, 4½" stroke. Perfectly balanced, sturdy, mid-season Gray's most popular Four.
GRAY "4-44," short, compact and true. 44 H. P. at 3,000 R. P. M. 41" long, 18" wide. Ideal for fast runabouts.
GRAY No. 37. High speed 1 a light, fast motor. Weighs 290 lbs. 10" tops. Adapted to 16, 17 and 18 foot outboard hulls. Develops 37 H. P. at 2,800 R. P. M.

GRAY MOTORS

Built by Pioneers—Engineers—Leaders

FOR WE NEVER GO A-SAILING BUT WE TAKE OUR HOUSE ALONG

(*Continued from page 25*)

boats where everything is done to make the craft comfortable and cheerful, you often find a small, unventilated space, where by inhaling deeply and holding your breath, it is possible to wedge yourself between a stove and a combination ice chest, dish closet and what have you, and there you're supposed to prepare a meal. Designers might take into consideration that nowhere on earth do people get so hungry, and, statistics to the contrary, many people still cook their own food.

Tres' galley contains an ice box that will hold several days supply, even allowing for the necessary chipping. Incidentally, like a great deal of Tres' equipment it was made at home, and thickly insulated with cork from old life preservers. It was taken to the boat and there bolted together, so that it will come apart easily. Although the uninitiated may not understand, I assure you, to any boatman this is an added charm. A two burner stove, which has always been adequate for our family, a closet in which a set of dishes may be stowed, large lockers for pots and pans, and a tiny sink, which also serves as a dish pan, are included.

The cellar is under the dish closet, and extends beneath the floor. It will contain a whole season's supply of package stuff, canned goods and ginger ale, which we always put aboard at the beginning of the summer, against the days when its rainy, or rough, or we're just too plain lazy to go ashore. A table fastened over the bunk, lets down to make a cozy place for breakfast or a hasty lunch and a tray over that part of the engine which protrudes into the cabin makes a good serving table. And in tangy fall days, when we put off going home from week to week, the oil stove comes out, we put a stack through the ventilator and our little shipmate goes up. Anyone who has ever had one of these cocky little stoves knows how attached you become to it, and those who never had one I won't bore by raving, but let me warn you, that you'll meet some skippers who wouldn't even consider you a qualified boatman unless you had smoked up the fleet at least once a season.

Our regular folding table is long and narrow and will fit in either cabin as well as on deck. Two army cots, which tuck away in corners of the closet, fit between the bunks or on deck and take care of visitors. Anchored in some quiet nook up the river or along the Sound, you couldn't find a better summer home than Tres.

There are lots of advantages living on your boat. Think of coming home at night, to have a swim, then dinner outdoors and no matter how hot it is, I'll guarantee you'll reach for a sweater before you're finished. Then you can take a short sail, or fool around with the outboard. If you go in for personal exercise instead of diet, a canoe is well worth the trouble of lugging around.

Or you can just sit back and listen to your radio or visit your friends in the fleet. Then perhaps a swim before bed and you'll turn in to have the soundest sleep you ever enjoyed anywhere. And during the night, when you reach for that extra blanket, that you were sure you wouldn't need, you can pull aside the curtain and look out on the prettiest picture in the world. Whether the boats are flooded with moonlight or hardly discernible in mist, it's always worth losing some sleep to see, an ever changing, ever new picture, a fleet at night. Perhaps you'll pause to listen to the faint sound from down the bay, of a powerful but well throttled down motor—a clam man or bootlegger coming in—and then you thump the pillow, and roll over and forget until it's time for your morning swim.

Getting ready for cruises will be lots easier when you're aboard all the time and your vacation will not be preceded by that hectic and exhausting week of trucking, which goes with the outfitting of any small cruiser for a short trip. Not that I mean to say living aboard is always pleasant. Of course there are mornings when it's raining and the dink is full of water, and there are nights when it blows and you roll around some in your bunk, and then there are the complications which will always result from the ladies of your family living so close to the machinery.

I still recall rather unpleasantly, the dreary, rough day we came down the Sound, with a lumpy, following sea. We were approaching the turning buoy at Manhassett and mighty glad of it, when suddenly from the cabin came a terrific bang, followed by a series of metallic sounds. We agreed afterward that it seemed as if the engine were coming apart and the pieces dropping one by one into the bilge. The skipper went from the deck to the cabin without touching the companionway stairs, and we all drew a sigh of relief as the sturdy chug, chug, of the exhaust continued. On investigation we found that the spoonholder, filled to the gunwales with the ship's silver had jumped out of its supposedly rockproof rack, flown clear across the cabin, and dumped its cargo down on the engine. Those teaspoons, clattering into the bilge, made a racket which I never hope to hear again in a rough sea.

And then the time we spent our vacation in a little inlet of the Hudson River, back of Kingston, anchored at the foot of a real waterfall. We spent most of our two weeks tramping around the country, with a delightful couple, whose cruiser was tied up next to ours at the canal lock. As they had been most kind to us, the night before we left, Mother planned a farewell dinner. It was really an extraordinary dinner for us city dwellers at least, for all the food was bought from a farm near our anchorage.

Outdoors most any sort of food tastes good, but this would have graced any table. A fresh killed chicken, newly picked vegetables, and as a crowning treat, Mother had induced the farmer to part with his last and exceptionally late batch of strawberries. Not only did he sell her the berries, but he donated, as people do donate things to Mother, a pitcher of fresh, thick cream.

Everyone was duly appreciative of the dinner, and exclaimed with proper enthusiasm over the berries and cream. Then someone took a spoonful of berries and someone took a drink of coffee. But the reaction was identical. We looked at each other in horror. Now berries and coffee do not ordinarily taste alike, but these had the same, unmistakable, pungent flavor of gasoline.

While the Skipper examined the percolator and the guests the berry dish and the sugar bowl, I surreptitiously sniffed at the cream pitcher. Cream which smelled like that could only have come from a mechanical cow. Of course I knew then exactly what had happened. That morning I had been filling the gasoline lamp, and because I couldn't easily find a small enough funnel, I had used the pitcher to draw gas from the tank. Just at the moment when everything was cleaned up except the pitcher, Mother had arrived laden with the spoils from the farm. The Skipper chose this same minute to haul up a line that had been heedlessly dangling overboard for hours and a fat and very much alive eel appeared. It took all hands to subdue the eel and by the time we had him safely collared, Mother had dumped the cream in our own pitcher, in which a residue of gasoline must have remained and put it in the ice box. We finished the meal with canned peaches, canned milk and some embarrassment on my part.

But I know some reader is saying to himself, well that's all right for them, and I'd like mighty well to live on my boat too, but we have small children. Why most people feel that the minute their child goes near the water something terrible will surely happen to him, has always seemed queer to me. Every child has a natural liking for the water and until some foolish grown-up teaches him to fear it, he will be perfectly happy anywhere from the bathtub to the ocean. Everyone agrees there is no healthier place, and really in this age of automobiles, I am inclined to add no safer place. We all know of some tragedy fatal to a child on land, yet during the past sixteen seasons, I have never known of a serious accident to a child who was accustomed to the water. Most children are a lot more canny about a boat, than the adult, who leaves his brains on the dock when he comes aboard.

If I could show you a dozen real water babies I know, I'm sure you'd be glad to have your child grow up like any one of them. First I'd take you up on the Sound and show you two sturdy, boatwise twins, who have been sailing, rowing and outboarding since they were little more than babies. I've never seen them in winter, but I suspect they are always that bronze color, which they had long before it was fashionable to be suntanned. They are perfectly at home on the boat, and no one has to watch them as they paddle about storing up lots of health for next winter. Or I could show you the whitest, slickest, little raised deck cruiser on the Hudson River, which for some years has been the home of a half grown boy and his baby sister. Sister began her boating swinging in an especially constructed hammock in the cockpit, before she was a year old.

Nowadays, when everyone realizes how much outdoor life means to children, a boat offers an ideal way to give them a long vacation. Of course they may fall overboard, but if you teach them to swim when they are small, you'll have nothing to worry you on that score at least. The most famous swimming teacher in the world says he can teach any child to swim who can walk easily alone. Teach them to row and to do things about the boat. You'll find that surprisingly soon, they'll develop qualities of good boatmen. While they'll be absolutely fearless themselves, you'll notice they won't take needless chances and that the better trained they are, the more strictly they'll watch the other fellow.

My own family really started boating on my account. The doctor told them to keep me outdoors or they wouldn't have me at all. So at nine I was rowing my own small, specially constructed rowboat on the Hudson River and was a far, far better swimmer than I am now. While I never developed into a particularly healthy looking speciman, yet, now nearly old enough

(*Continued on page 78*)

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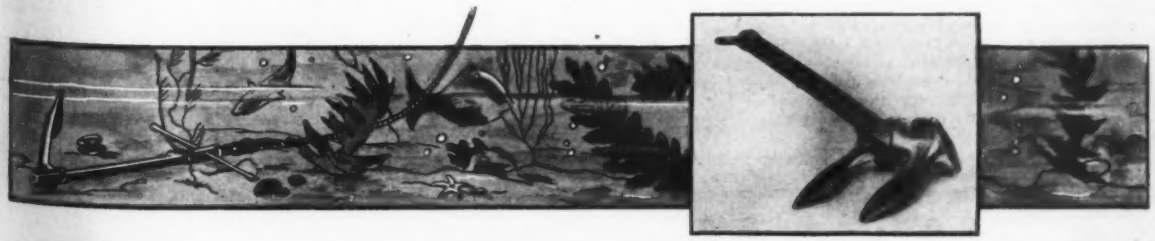

IN THE WAKE OF THE REVOLUTION

(*Continued from page 29*)

that the entire jungle lying behind the palms had been infested with a beeg camp of rebels. These men had set out to capture Mazatlan, but finding the mainland end of the causeway (the only practical approach to the city) thoroughly guarded they had settled down to a siege. From their position across the bay they could keep up a hot fire against any pedestrians or vehicles that undertook to travel to and from the railroad station.

For several days early in 1929 things looked pretty serious for Mazatlan. The little permanent garrison was stationed at the seaward side of the town, as was the fort with a few antiquated guns. In that remote position they were of practically no value when the enemy approached from the mainland. But before many days federal reinforcements arrived from Mexico City. Incidentally, as Manuel and others explained to me, this event was an important demonstration of the value of the recently completed Southern Pacific Line. For years the Mexican branch of that great transportation system had been pushing southward to make direct connection with a federal line extending as far northwest as Guadalajara. The barrier that had baffled engineers for years had been the barrancas (or rough country) in the vicinity of Tepic, to the southeast of Mazatlan, about 200 miles. In other words, while the fertile west coast of Mexico had rail connection with Arizona and California points it was isolated from the national capital. This had been the condition from the beginning. Consequently revolutions were easily hatched and nurtured on the west coast. The warlike Indians of the Yaqui valley for generations had been particularly troublesome in this respect. But when the revolt of 1929 broke out the Southern Pacific had only recently completed its line all the way to Guadalajara, bringing federal aid much nearer. Incidentally, it was a colossal engineering triumph to penetrate the wild barranca country, the cost per mile probably exceeding that of any other section of railroad of similar length, built in 20 years.

While the leaders of the rebel forces must have been aware of the rail connection with the federal capital, the peon soldiers certainly were quite taken aback to see a well organized force emerge from the vicinity of the railway station and take up a strong position behind the walls of the cemetery, which occupies a position about midway between the depot and the town. From our position just off the rebels' sandy beach we could get a very clear idea of the siege and how perilous it was for anyone to attempt travel on the causeway, except under cover of darkness. I was anxious, however, to get a closer look at the cemetery headquarters and so indicated to Manuel.

My guide, who by now had become most friendly and anxious to please, urged that there were other matters that ought to engage my attention first. Accordingly he swung the launch on a long curve to the starboard and for a time I thought he was going out to sea. But what he wanted me to see was the lighthouse and the fortifications. He ran us fairly close to the conical island of which I have spoken and also gave us a glimpse of the barracks, whose occupants were engaged in sauntering up and down the dusty path in front of their abode. Later I enjoyed a journey on foot, completely encircling the fortified promontory. The view was almost as entrancing as that from the boat. It was interesting too to see the money that had been spent on handsomely balustrated glorietas, or observation points. Back in 1910 when the German influence in Mazatlan had been strong these Teuton merchants had contributed liberally to the beautification of this portion of the waterfront. In recent years unfortunately, these public improvements have fallen into disrepair but they still present an imposing appearance from the surface of the water.

Perhaps this circuitous journey was only a ruse on Manuel's part to make the trip a little longer and so lengthen the fee. At that, I had no regrets, and eventually we came within sight of the cemetery. It made the revolution very real to see the hundreds of fresh bullet marks on that stucco wall, and in addition a great number of slits which had been rudely cut through the wall so that riflemen, hiding behind the barrier might engage in sharpshooting with reasonable degree of safety. I could well believe that nearly twenty civilians had lost their lives while the federals and rebels were fighting it out at long range.

But if the recently completed railroad shared in making it difficult to nurture a revolution, there were other factors contributing to the government's early success, as Manuel indicated with a broad smile.

"Airplane," he remarked with suitable gestures, and "beezy gun boa'." Up to that point in our leisurely journey I had scarcely realized that Mexico had a navy. But come to think about it, 5,000 miles of coast line certainly entitled her to a navy if she wanted one. At any rate an old gunboat which had seen service almost as long as General Diaz himself steamed into the bay a bit tardily and unloaded a few calling cards in the vicinity of the palm trees. The moral effect on a few thousand rebels most of whom had never seen anything larger than a good sized row boat was excellent. Added to this was the more important influence exercised by an airplane which the federals sent to the scene. This was not much of a crate as fighting planes go, to judge by the description of the natives, but at least it could keep in the air and was manned by a daring and skilful pilot. This gentleman insisted on making frequent and most annoying trips right over the rebel camp, each time dropping his increasingly interesting variety of hot mementos. In short, it soon became quite unpopular to revolute. The peons, many of whom had joined the uprising as a result of threats, ignorance, or false promises, began to desert. Then started the retreat from Moscow—northward along the railway line—that broke the back of the revolution. Manuel took considerable satisfaction, while steering the launch with one hand, in indicating with the other hand the vulnerable points in the rebels' position. He pointed out also the path of the retreating forces past the railway station and on toward Culiacan and points north. It is very plain, from the vantage point of a boat out in the bay, to see that the peculiar geographical position of Mazatlan saved it from falling into the hands of the rebels. Possibly the whole course of Mexican history might have been changed but for this natural obstacle.

With Mazatlan on the mainland it might have been captured before the federal troops arrived. Had this occurred the word would have spread rapidly to other towns and cities if previous experience is any criterion, they would have been sorely tempted to join the victors. Such a condition on the west coast undoubtedly would have encouraged that ever present army of malcontents, in and out of Mexico, to revolt against the government that has done them some real or fancied wrong. It is not too much to say that had Mazatlan been captured the whole Mexican government might have been overthrown in 1929, as it has been on so many previous occasions.

But I found Manuel something of a philosopher and student of current history, as well as a good boatman. He echoed the sentiments of the Mexican drummer I had met on the veranda of Del Mar. "Revolution bad beezness. I think no more revolution. La Presidente send troops queek by Sud-Pacifico ferrocarillo. Airplan' make 'em caliente—what you say?—hot—for rebels. Peeple no more fight."

Time alone will demonstrate whether or not Manuel is right. But I found much to confirm his belief. The business of fighting does not gain in popularity with defeat, whether it be in Mexico or any other country. Particularly is that so when those who are urged to revolt have been disillusioned again and again by the treachery of their leaders. Furthermore the improvement of communication lines, both land and air, in Mexico is certain to make established authority more stable. Just as isolation and feudal sovereignty gradually gave way in Europe before a larger national consciousness, so the west coast Mexicans, the Yaqui Indians, and the tribes in the desert south of the Rio Grande are certain to feel closer affiliation with the central authority whether they like it or not.

I had scarcely noticed that Manuel had cut out the motor while we were talking of revolution and things, cabbages and kings. The sun was dropping down behind the islands at the mouth of the harbor. On the highway near the shore a peon was admonishing a tiny over-burdened burro with a high tenor "Adelante!" which the animal totally disregarded by slackening his speed. Across the water came the voices of half-naked brown children at play on the beach, and the bark of a dog. Presently the cannon in the old fort boomed forth and almost simultaneously the bells in the cathedral towers sounded a veritable angelus which seemed to cast a spell of peace and quiet over the entire city.

The charm of the scene had captured Manuel as well as myself. He sat in silence, drinking in the music of the bells from the church around which his life had revolved from the beginning and around which it doubtless would revolve until the day when he was carried to his grave.

Impulsively he turned to me. "Ah, señor, ees it not,—what you say?—beautiful? Perhaps now you know why we loove Mexico ver', ver' much." And he placed his hand over his heart. "And you know, I think you Americanos after all not so —what you say? hard boil. No, señor, you not hard boil."

"Well, Manuel," I answered, "after I have been shown so much courtesy, by your people, and after having had glimpses of your country's unusual charm—so different from what most Americans understand Mexico to be—I feel very certain that in

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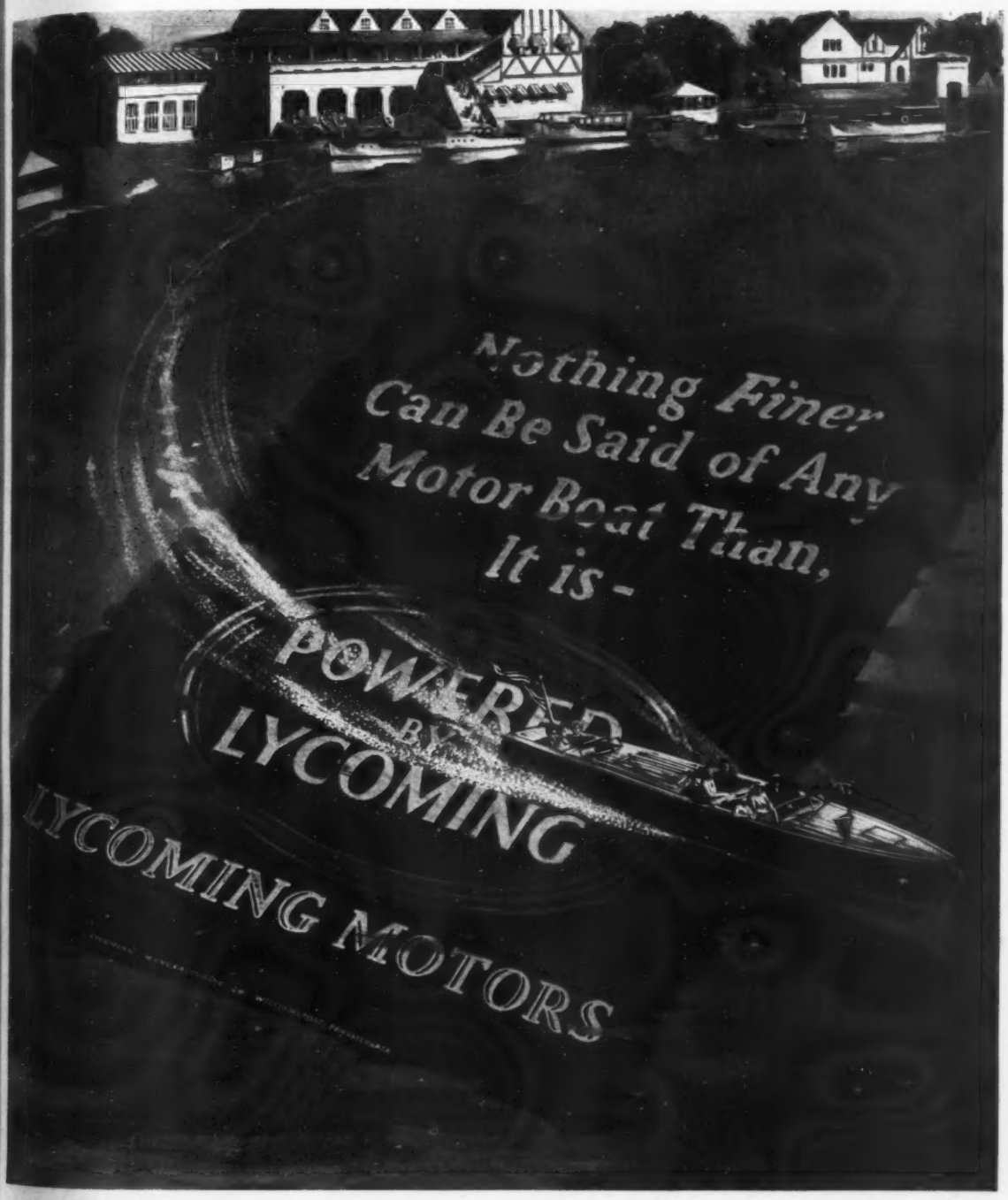

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DOWN BISCAYNE BAY

(*Continued from page 35*)

deserted house had stood in a grove of trees on the highest part of the island, facing on the strait. The other keys are much smaller. One has a few mangrove trees, while the rest are but a handful of coral rock and sand. Sands Key to the south is heavily wooded.

With the lower end of the southernmost key nearly abeam and 250 yards north of the markers we hauled sharply to port and felt our way in. After opening the entrance to the basin we made for it. All around the water shaded from azure and milk white to aqua marine and green. Through the opening between Ragged and Sands Keys, masses of dark green mangrove with slanting coconut palms set at careless random, we caught a glimpse of the sea. Some lofty cumulus clouds piled up here and there in a sky of deep, soft blue reflected the suns slanting rays back and forth producing a lighting effect of heavenly splendor. And the water, smooth as glass in the lee of the key, mirrored nearby trees and the clouds. A few pelicans resting on the shoal to port did not disturb themselves and there was no sound save the click of the valves counting off slowly to the close throttled engine, the occasional breaking of the surface in our quiet wake by a kick from the propeller, and the faint sound of diminutive surf on the other side of the key. As we entered the basin an almost unnoticeable creak that had developed in the steering gear groaned aloud, magnified many times.

The bulkheading of the basin had caved in at many places and was in such a state of general dilapidation that we were hard put to find a section fit to tie up to and have access to the shore. When at last tied up to our satisfaction I shut off the gasoline and cooling water and let the engine run to a stop, my unfailing shutting down routine. In the basin sheltered from the breeze the old sun bore down strongly and in the discomfort of the sudden heat we considered moving out again and anchoring in the cool current of air drawing through between the keys. It was decided to don bathing suits and seek a cool spot ashore. Forthwith we became impatient to be off as the boat was rapidly becoming blisteringly hot.

My last minute inspection of moorings resulted in dissatisfaction with the forward breast line as it would allow the stern to cruise under the broken overhanging wale of the dock, inviting trouble on a rising tide. By the time it was made satisfactory I was hot with a tendency to being hypercritical. Anne had waited with all good patience but why must she have that inevitable little bag, always a bit vague in my mind, but which I suspected even here on a desert island contained powder and such little makeup gear.

We set out through the dense undergrowth heading back for the bay shore. The vegetation scratched us vexingly and irritated by the tropical heat set up a rash of some discomfort but which proved to be of a very temporary nature. Upon gaining the shore we found the going easy on a margin of baked white coral mud littered with pellets of the same material averaging in size about that of a baseball and evidently rolled into shape by the action of the water. In spite of the heat in the full glare of the western sun I had fully regained my sense of appreciation. The mud pellets were found to be excellent missiles to throw at whatever target floated in range. A small inlet not seen before barred our direct progress. We walked up it until it narrowed sufficiently to jump. Picking our way back through the scrub palmettos and vines and creepers we made the water's edge again and continued around the point.

Here the water changed from powder blue to cool green as it flowed swiftly through the deep passage separating us from Sands Key. The verdure grew right down to the water's edge. A half grown palm spread its great leaves like a Dutch windmill. Some old piles straggled out a few yards off the point, leaning this way and that and around which the current eddied. The low sun struck off long shadows that twisted like corkscrews on the tide. The temporarily lost breeze met us full in the face and in an instance we were cool again. There must be magic in the Florida breezes.

A few steps further the green edge gave way to a sandy beach bearing around to northward, and on our right the sea with the Gulf Stream grazing the outer reefs, blue like the Mediterranean. A steamer's smoke, a black smudge, lay on the northern rim. Some sea gulls took wing as we approached and a flock of sand pipers scampered away. There seemed none other but us in the world.

The beach here is very shelving and one can walk out many yards and still be only ankle deep, but the going is bad under foot with lumps of clay and coral and sponges and other marine growth in great profusion. As a bathing beach it is a total loss. The strip of sand between the water and the vegetation line, however, is very pleasing. Sea shells of many kinds were strewn about and we amused ourselves with the more attractive ones. Now and then we would come upon a stranded and parched Portuguese man-o'-war which would pop loudly when trodden on. Anne made for a striking-looking shell of considerable size with every intention of exhibiting pride in her find. Just as she was about to pick it up it arose on perfectly capable legs and made off at great speed. Then I had my fun.

The house of my former visit was not in evidence and, upon later investigation, was found to be burned after partial demolition by the hurricane, which must have struck these keys with great fury. I was not sorry, for deserted though it was, it seemed an intruder upon the solitude of the spot.

Finding a bit of wreckage we seated ourselves to contemplate the sea. No real surf reaches the shore for it is broken up far out on the reefs leaving mere ripples to lap at our feet. The sky was shot with the first pink and rose of sunset and reflected by the wool pack clouds in the east the sea took on an iridescent hue. The smudge of smoke was now connected to a funnel between two masts and a little later they grew a hull which rolled by grazing the outer reefs. Of and yet apart from the world; strange how that dingy little tramp fitted in the picture, belonged there, to vanish, as it certainly did, smoking its way southward and bound, who knows where? The wind rustled the palm leaves and whispered in the pines. A little while ago the tide had turned and it now wet our feet. The moon long visible was growing brighter. Day was giving way to twilight.

Anne produced two Hershey bars from her bag. I believe none were ever eaten with greater relish. The only thing needed to complete my happiness was my pipe, which in the heat and nameless temper in which I had left the boat I had not troubled to bring. I gave voice to my plaint and my Anne opened the miserable bag producing pipe, tobacco, and matches.

There is something that always seems to draw our eyes northward at sunset, the north light no doubt. It was particularly beautiful that evening and we watched the sea in that quarter gradually lose its various hues and become darker and darker blue. As we looked Fowey Rocks light flashed out its first beam of the night. It seemed to darken rapidly after that.

My pipe was out and the tide well about our feet before we grudgingly bestirred ourselves and retraced our footsteps along the strand. Away to southward, low on the horizon, flashed the light on Alligator Reef and we saw, or thought we saw, the twinkle of a light on the tramp. We found a busy flood making in the passage, the moon touching it with silver. We got aboard the Cruisette as the last light faded in the west.

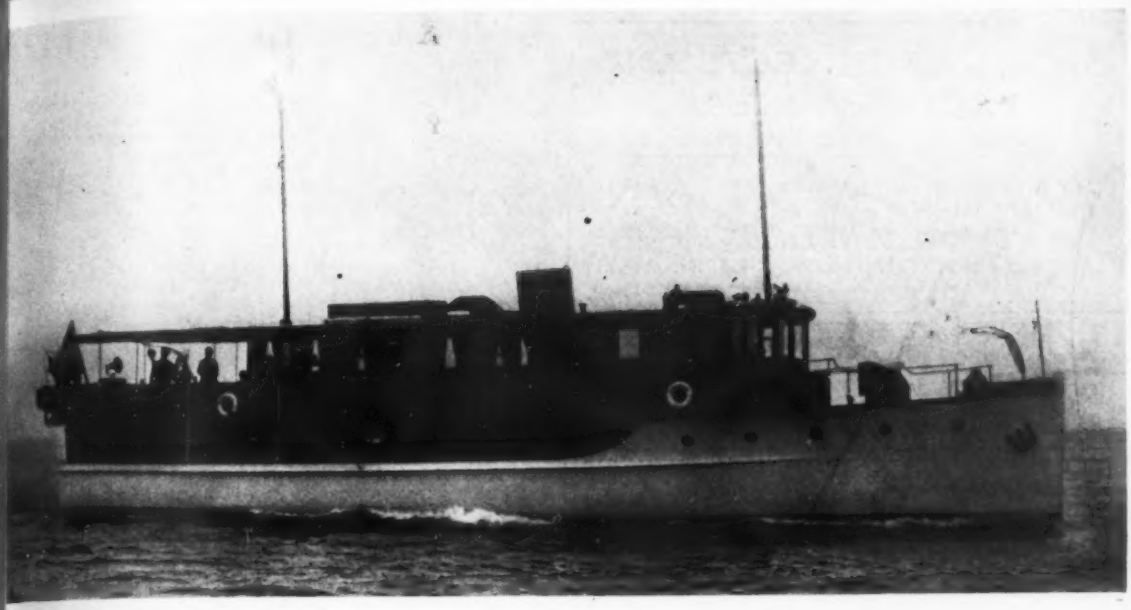
Anne went immediately below to dress while I got under way and stood out of the basin, anchoring about a hundred yards off shore in the breeze drawing through between the keys. The cable set taut and we lay motionless head to wind and current and riding true in the silver wake of the moon.

After switching on the anchor light and securing the engine I went below to dress. By the time I was serene in white duck, canvas shoes, and short sleeve shirt Anne was well under way with chow. I remember her in a light sleeveless dress, canvas shoes, and tan stockings, wearing a blue smock trimmed with red gadgets and handing the galley stove a good line of sea-going talk—it was slow she said, whatever that means. I started to fill a pipe preparatory to a lounge in the cockpit while awaiting dinner but was detailed to set up the table and spread mess gear in the cockpit. The job done I finished filling my pipe for a bit of luxurious ease when I was put to cracking ice. Then with a duty-well-done feeling I lit off the pipe and—was put to running grub up from the galley.

Now bacon and yams fried with brown sugar is a pleteiful enough dish, possibly some might question my even mentioning it. But bear in mind that we were boating, and had a light lunch and had spent a couple of hours or so on the beach playing, and that it was now past eight bells. So I'll say again that we sat down to bacon and fried sweets, bread, butter, pickled beets, and iced tea, with cold fresh pineapple for desert. Our table cloth was not a real damask one but it looked pretty good. The silver gleamed in the light of a shaded electric candle (which is my idea and pride) and nice high lights played in the polished joint work, around about the moon lit world was replete with magic. The faint sound of the small surf could be heard from across the key. Over there, just clear at the edge of the trees, Fowey Light flashed its warning. It seemed to flash on and off with a click in the soft clear air. Life could hold no more of content for us at the moment.

In my nursery as a kid I remember frequently being reminded of the advice of one Jonah to a chap Rollo that "when you've done your play, put your things away." I don't know who the parties of the first and second parts were nor have I heard the quotation, if quotation it is, for many a long year. However,

(*Continued on page 78*)



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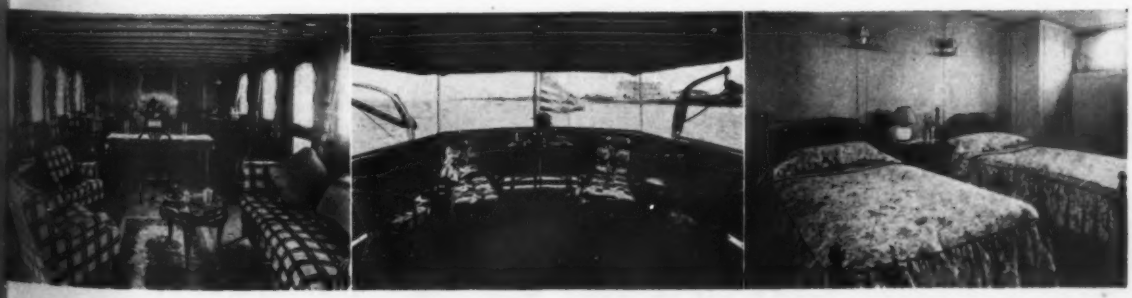

A few views of Show Boat, illustrating the living room, lounging deck and one of the double staterooms. Luxury and comfort are outstanding characteristics of this boat.

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If you have a boat in Florida waters that you want sold, insured, surveyed, or cared for in any way; or if you wish to purchase one; I can serve you. Over fifteen years' experience as a Naval Architect, Shipbuilder and Inspector. My list of all classes of boats for sale and charter is very extensive.
HAROLD H. BAILEY, 206 Exchange Building, Miami, Florida

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COX & STEVENS, Inc.
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NAVAL ARCHITECT
4239 St. Charles Avenue, New Orleans, Louisiana
Sail and power yachts. Houseboats and commercial vessels. Surveys made in all Gulf Ports.
I have a large number of yachts of every description for sale, and some for charter. Stability and free board calculations. Cable address: "Walkeen."

ADVERTISERS . . .

The Detroit Boat Market

Is Awaiting Your Message

What more timely! Your announcement to Detroit's vast population of yachtsmen and boating enthusiasts concurrent with the Detroit Motor Boat Show. Besides its regular circulation of 4,300, the D. Y. C. MAIN SHEET offers you the added inducement of another 6,000 copies circulated during the Detroit Boat Show. No increase in rates. Space reservations taken now. Closing dates March 15th to 18th.

W. D. EDENBURN, *Editor*
5-218 General Motors Bldg., Detroit

The Main Sheet

THE LURE OF THE CHART

(*Continued from page* 18)

care that it does not blow away. I am told that passionate navigator's solicitude for his chart is one of the choicest bits of small-boat cruising. Having no proper receptacle for it, he places it on the cockpit floor and weights its four corners with the most convenient things that come to hand—binoculars, log book, tobacco can, and deck cushion. Thereafter these objects and this most desirable location are sacred to the chart. Disturb them at your peril. You well know that if the chart goes overboard you will have to follow suit.

Finally you run off the chart, put it away, and take the next one from the locker. But though the material thing is out of sight its image remains imprinted on your memory. In studying across it you have examined it so many times and compared it with the shore from so many angles that it is a stereoscopic picture in your mind. In later years as you re-examine it it brings back the cruise more vividly than logbook or photograph album. Here is the weather stain that marks a sudden squall when you and it were drenched through and through. Here the penciled cross bearings that you took to verify your position on the shoals. Here the mark when some sacrilegious person spilled coffee on it. And here, thousands of leagues away, the pattern marks the coastal strip of palm trees in which you shot a perfect at daybreak.

Now, you take a map with more than a grain of caution. If a local expert tells you that the road has been changed since the map was made you believe him. You follow his directions—half a mile to the left and the first turning to the right, and so on. But you believe the chart in preference to all local knowledge. The local savant may be right. He may follow a shortcut with impunity, navigate places which the chart says are entirely innocent of water. But you can't do as he says and keep out of danger. The slightest deviation will land you high and dry—and the local expert will have to come and tow you off.

So the wise navigator follows the chart. But the wiser he is (and this paradox is one of the fascinations of cruising) the more suspicious he is of the chart's accuracy. He does not accept the local expert's sayso, but he does keep his own skepticism stretched to the breaking point. If the chart tells him that a certain buoy is located in such and such a place, he says to himself:

"The chart's right, of course. But the buoy may be wrong. The winter's ice may have carried it out of place, or the last storm may have shifted the shoal it marks. It may not even be the buoy I think it is. So caution is the word."

In time you come to have an uncanny prescience about such things—which is another joy of cruising. For no explicable reason you give a buoy a wide berth or cut close to a bank and are rewarded by hindsight of a hidden danger that you have avoided. At night when sailing over almost bottomless depths you suddenly form the conclusion that it is time to take soundings—and find that you have overrun your reckoning and are suddenly come within striking distance of the shore.

No matter how often you momentarily distrust the chart and find it guilty of trifling peccadillos you regard it always as your warmest, most faithful friend. After it has piloted you over pleasant sunny seas a dozen times or seen you safely through the direst danger you will defend it as any navigator does, with "Don't call it a map. It's a chart."

COAST GUARD USES STOCK RUNABOUT

Off the beach at Jackson Park, Chicago, lies a waste of water that can, upon occasion, present one of the most forbidding aspects of any similar stretch in the country. Situated as it is at the lower end of Lake Michigan, a northeasterly gale can pile up mountainous seas along this shore in relatively short order. It is during the fall months that such storms most frequently occur, and it is then that the United States Coast Guard station has its most frequent calls for aid.

Last August a new model 4 Chris-Craft, 26 feet in length, was turned over by the government to Captain Stebbens of the Jackson Park station. Used to the heavy, bluff-bowed surf boats and cutters, with their cumbersome gear and hard handling, the responsive Chris-Craft seemed almost a toy to these hardy surfmen at the Jackson Park Coast Guard station. A few runs in heavy sea soon showed them that the Chris-Craft was not only an excellent seat boat, but was speedy and responsive at all times—an important factor to consider when human lives may be depending upon their efforts.

To date, eighteen lives have been snatched from the hungry grasp of Lake Michigan's wild waters through the use of this faithful speedboat, and no one at the station hesitates to take her out in any weather—tribute to Chris-Craft's soundness of design as well as its outstanding performance.

Advertising index will be found on 3rd last page.

Come to the
MIAMI BEACH REGATTA
March 25th and 26th

EVERY boating enthusiast with the tingle of racing in his blood looks forward to these dates at Miami Beach. Here on the beautiful emerald green Biscayne Bay, the course for the great International Speed Boat Races is laid out, directly in front of the Flamingo Hotel. This is the blue ribbon racing attraction of the year and the climax of a brilliant season of social and sport activities at America's Winter Playground.

Of course you are coming. There are unlimited facilities for the enjoyment of wholesome outdoor summer sports—Boating, Bathing, Fishing, Golf, Polo, Tennis, Motoring and other recreations.

GOVERNOR OF FLORIDA TROPHY

Thi is one of the many speed boat trophies to be competed for at Miami Beach March 25th and 26th

For hotel accommodations address:

THE CARL G. FISHER HOTELS

Flamingo—Nautilus—Lincoln—King Cole—Boulevard

MIAMI BEACH, FLORIDA

Off to business . . . . at two miles-a-minute

HUNDREDS of successful, ever-energetic American executives have found in the airplane an indispensable business ally. Modern men whose affairs require their presence at several distant points in one day—or many places in a month—have turned with a sense of deep appreciation to private air travel.

◗ Spartan builds airplanes exactly suited to this aggressive business regime. Spartans are amply powered for quick take-off, attain high speed in flight, yet will land slowly and as safely on the small, private field as on the airport.

◗ Spartans are safe because of extreme sturdiness, fool-proof spinning qualities and slow landing speed . . . . economical because they can be operated for twelve to fourteen cents per mile . . . . and easy to fly because of basic stability and positive, sensitive control.

ILLUSTRATED BROCHURE SENT ON REQUEST

« « « » » »

Spartan biplanes are offered with the choice of two engines: The 225 h. p. Wright "Whirlwind Seven" and the 165 h. p. Comet. Special equipment of each model includes dual controls, metal propeller, booster magneto, gasoline gauge, air-speed indicator, oleo gear, 30x5 Bendix wheels and brakes, adjustable stabilizer, navigation lights. Prices range from $7750 to $5675 fly away Tulsa

SPARTAN AIRCRAFT COMPANY · TULSA, OKLA.

HOW MANY BOATS ARE THERE?

(*Continued from page 20*)

It is not at all an exaggeration, therefore, to state that there are approximately 785,500 unregistered motor boats in operation in the United States and that these vessels are not registered simply because they are operated exclusively upon non-navigable waters.

When one attempts to estimate the number of outboard-propelled motor boats in use in the nation, further difficulties arise. The only vessels of this class which are required to be registered with the authorities are those which are operated upon navigable waters and exceed sixteen feet in length. And there certainly are very few outboards which meet both of these requirements. We do know, however, that the increase in the number of outboard craft in use in the United States has been probably the most sensational happening in the world of motor boats. Fifteen years ago there were only a few hundred of these craft in the country and as recently as five years ago there were not more than several thousand outboards in active use.

But about five years ago these diminutive motor boats, due to the marvelous developments in both engines and hulls, began to increase at an almost unbelievable rate. As a result, they soon were capable of being measured in terms of hundreds of thousands. Though no official statistics are available, it is possible today to gather together sufficient non-official data of a reliable sort to estimate the present total number of these outboard-propelled motor boats with an acceptable degree of accuracy. And such data as is procurable indicates that there are approximately 400,000 outboard-propelled motor boats in the United States. That figure, if erroneous at all, is probably a smaller estimate than is warranted by the evidence at hand.

Thus far, we have concerned ourselves exclusively with pleasure motor boats. There are, in addition, large numbers of motor craft which are engaged in commerce and marine enterprises of one sort or another. These vessels too, just as in the case of the outboards, are not capable of being measured in any thoroughly accurate manner. But, without going into the computations themselves, it can be stated that there are somewhere in the neighborhood of 25,000 motor boats which are strictly commercial craft and hence not included in any estimate of pleasure motor boats. Those pleasure craft which are employed occasionally for commercial purposes are not large enough in number or so used with sufficient regularity to exclude them from being listed with the pleasure motor boats.

From the above official findings of the Commissioner of Navigation and the estimates deduced from those findings and other available sources, it is possible to state that the total number of pleasure motor boats in use in the United States has risen at the end of the government's fiscal year 1929 to a new high figure of 1,424,924 vessels. The grand total is made up as follows:

Documented Motor Boats.....	2,910	(government figures)
Numbered Motor Boats..... ..	236,514	(government figures)
Unnumbered Motor Boats.....	785,500	(estimated figures)
Outboard Motor Boats.....	400,000	(estimated figures)
Total	1,424,924	

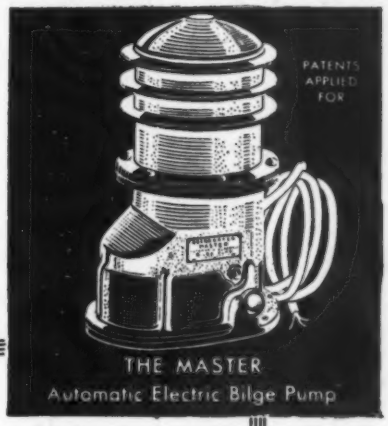
The combined increases in all classes of pleasure motor boats recorded during the year total slightly less than 100,000 vessels. That is now but a matter of record. It is but natural, however, that this happy achievement should direct the eyes of motor boat owners to the future and especially to the year now at hand.

Obviously, it is not possible to gauge further increases in the motor boating sport with anything that even approaches the certainty of past accomplishments. But we do know that the same conditions which brought about the glorious expansion of the sport during 1929 are still at work. And there is nothing apparent at this time on the horizon of the new year to indicate in even the slightest degree that these same conditions are not going to continue to function during 1930. Whatever speculation exists seems wholly to be confined to the estimating of just how much growth the new year is destined to bring to the sport. That the sport will continue to expand is simply not to be doubted for the momentum furnished during 1929, following closely upon a period of five unusual years as it does, can not slow up quickly enough to permit the ensuing year to be visited with anything less than a favorable amount of growth.

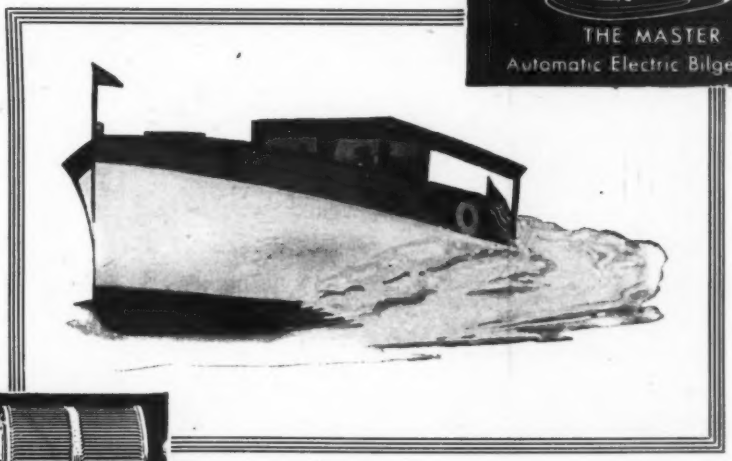
Undoubtedly, the fiscal year 1929 has won its right to go on the records as another red letter year for motor boats. The year 1930 certainly need not bring with it a less welcome achievement and, with the complete cooperation of everybody, it conceivably can result in an even larger growth—at any rate, certainly as much.

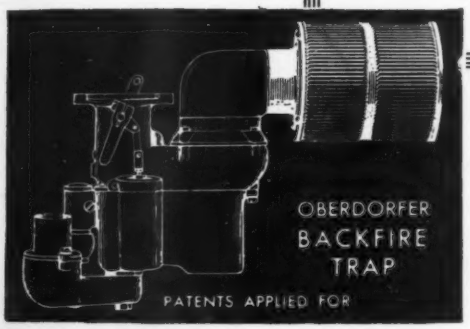
Advertising index will be found on 3rd last page.

Oberdorfer Safety Devices are *Vitally Important*

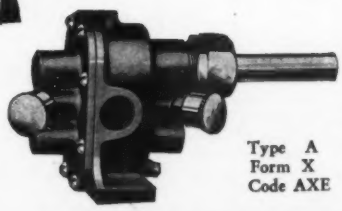


Every boat requires the protection of an Oberdorfer Automatic Bilge Pump as well as an Oberdorfer Backfire Trap.





HAND
BILGE
PUMP



OBERDORFER
BRONZE GEAR
CIRCULATING
PUMP

Type A
Form X
Code AXE

SAFETY demands that your boat should be equipped with an Oberdorfer Automatic Electric Bilge Pump as positive protection against the dangers of bilgewater accumulation. The "Master" Model is available in 6, 12 and 32 volt units; the Improved Model "B" in 6 and 12 volts.

The Oberdorfer Backfire Trap, an Underwriters Laboratories' approved device, gives you necessary protection against the hazard of fire caused by backfiring of motor.

The Oberdorfer Hand Bilge Pump is a dependable and very efficient unit. Oberdorfer Bronze Gear Circulating Pumps enable your motor to give its best performance.

Oberdorfer Motor Driven Gear and Centrifugal Pumps are splendid all-purpose pumping outfits. At your marine supply dealers or write us direct for full information.

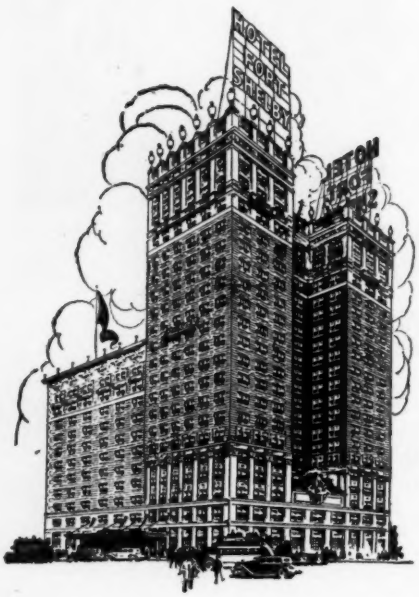
M. L. OBERDORFER BRASS CO

Makers of Pumps since 1875

2200 Thompson Road, Syracuse, N. Y.

Oberdorfer Pumps

All Downtown Detroit is Practically at the Door



Look for the Large Green Sign on the Roof

Adjacent to theatrical, financial and recreational centers — yet removed from the bedlam of metropolitan activity, the Fort Shelby is advantageously located. All the comforts and services of the most modern hotel are provided here—with this addition: *an alert, congenial anticipation of your needs.* When the door of your room is closed, all is peaceful — quiet. Servidors eliminate even momentary intrusion.

Plan a schedule of amusements, wire your selections, and we'll have tickets to theaters, concerts and sporting events reserved when you arrive. Booklet and direct route to hotel supplied on request. RATES: $3 A DAY AND UP.

Main routes run either directly to or in the vicinity of this hotel. Competent attendant promptly takes care of your car. J. E. Frawley, Managing Director.

HOTEL
FORT SHELBY

LaFayette and First
DETROIT

IN THE WAKE OF THE REVOLUTION

(*Continued from page* 70)

some particulars we are a very hard boiled people. But Manuel, even though we do have a tough shell and really have a lot to learn about courtesy and sentiment, we are all right at heart. This day has taught me something about current history and that you are a boatman philosopher. It has also given me a better understanding of the Mexican people. Now then you will excuse my abrupt American way if I suggest that it is time to kick that motor over. They are going to have some more delicious fried chicken at Del Mar tonight and I must do my bit keeping the world safe for poultrymen. Let's go!"

Manuel smiled until he showed every one of his shining white teeth. "Se, señor."

And the old motor answered briskly, "Plop-plop-plop."

DOWN BISCAYNE BAY

(*Continued from page* 72)

what I'm getting at is that we had to wash dishes, wipe down and stow gear.

Afterward we settled in the cockpit and gave ourselves up to the enjoyment of the evening, tuning in on a National Broadcast program of music particularly suited to the time and place. It was easy to imagine ourselves in the South Sea Islands and hard to realize that the glow in the sky to northward was the light from a big city and that the music we heard came from New York.

We fell to talking of other cruises (how pleasant it is to reminisce, and thought what a different story was the run down from New York last February. Then there was that cruise to Nassau and Bimini when we broke a tail shaft in the Stream on the way back. By way of Key West, too, that cruise was. And once we left Miami bound for Duluth, winding up in Rainy Lake, Minnesota. That was in a fifty footer. Outside from Miami to Beaufort for time was short. That cruise was overland from Duluth and we had three locomotives and were stuck in a tunnel as a starter. But that is another story, a good one, properly told. And so on and on.

Beautiful though it all was, yet would nature assert itself and one yawn followed another, so I went forward to see all secure and the riding light burning brightly. We turned in to be gently rocked to sleep as Cruisette swung a little at the change of tide, to dream of the Spanish Main and buried treasure, little knowing that on the morrow we were actually to find treasure buried in the sands of the outer beach.

FOR WE NEVER GO A-SAILING BUT TAKE OUR HOUSE ALONG

(*Continued from page* 68)

to say, "over thirty," when I vote, I haven't had a day's real illness in years. And right here let me claim my sole championship—in all that time I've never fallen overboard.

When we acquired our first small boat, people still spoke of night air as being damp, and regarded as lunatics those people who professed to like camping. And some of these ideas are still around. But if your friends regard your resolve to live on your boat next summer as an absolutely crazy idea, or if they remark as one of mine did:

"Honestly now, don't you feel like a perfect tramp after living like that all summer?"

Why quote Joyce Killmer's verse, from which I perverted the title of this piece:

"To call a gypsy a vagabond,
I think you do him wrong,
For he never goes a-traveling,
But he takes his house along."

NEW YORK DISTRIBUTOR FOR TREIBER

The Treiber Diesel Engine Corporation of Camden, New Jersey, manufacturers of Treiber Diesel Marine Engines and Electric Generating Sets, announces the appointment, as its New York Distributor, of the Smith-Meeker Engineering Company, 123 Liberty Street, New York.

The Smith-Meeker Engineering Company is an old established and very favorably known concern specializing in Marine and Electrical Engineering. They will handle the complete Treiber line—Generating Sets 7½ to 70 k.w. and Marine Engines 65 to 3000 h.p.

Treiber Diesel engines are representative of the most modern development in light weight high speed machinery.

Advertising index will be found on 3rd last page.

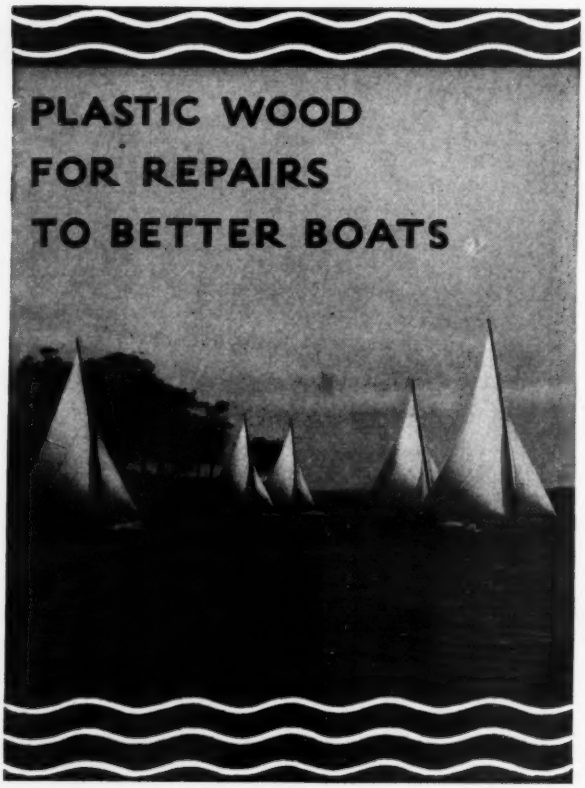
MIAMI BEACH

The Yachtsman's Capital

WANT a real vacation this winter? Then come to Miami Beach, the winter capital for yachtsmen. Here in the semi-tropics, where June weather reigns the year around, outdoor sports are the spirit of the day. There's Boating — Bathing — Fishing — Golf — Polo — Tennis — Motoring and other diversions.

Miami Beach, with its unsurpassed yachting facilities, its many sport attractions, its irreproachable hotels, economical apartments and cottages, ensures you a never-to-be forgotten vacation. You will especially want to be here for the International Speed Boat Races, March 25th and 26th.

For descriptive literature and hotel accommodations address: Chamber of Commerce, Miami Beach, Florida



Two of the well-known classes on Long Island Sound are the "Great Scots" and "Wee Scots." Seaworthy, and easily handled, they have served as training ships for many a young yachtsman.

MILTON BOAT YARDS

Manufacturers of

GREAT SCOT and WEE SCOT

Racing is always hard on boats, and with the "Wee Scots" largely manned by juvenile skippers, accidents are frequent. The Milton Boat Yard has to make many quick repairs — repairs that are permanently strong. Plastic Wood has been of the utmost value.

For pattern making, too, the Milton Boat Yard uses much Plastic Wood. But for the boat owner its greatest value is for repairs—chafed planks; splits and splintered wood; re-fastening cleats, bolts and screws; patching holes. Have it handy when you need it. Keep a can aboard.

PLASTIC WOOD

Reg. U.S. Pat. Off.

At Ship Chandlers, Hardware and Paint Stores

Our Engineering Department will gladly answer any specific questions as to the adaptability or use of Plastic Wood in Boat Repair or Construction.

Send for free 24-page booklet on Plastic Wood for Boat Repair and Construction

ADDISON-LESLIE CO., 26 Bolivar St., Canton, Mass.

HELEN WILLS GOES BOATING

(*Continued from page 37*)

still favorable and the atmosphere warm and welcoming, in charge of his regular skipper, Ed Watson, to meet the honeymooners there. With him were a deckhand and a cook. They were to be the only ones aboard besides the chief characters in the adventure. The yacht waited for them in the California Yacht Club's ample harbor at Wilmington, near San Pedro.

Motoring to Wilmington, where they arrived the afternoon before Christmas, they at once went aboard Galatea, disappeared down the companion way and reappeared a few minute later clad in blue and white yachting costumes. Later they drove the nearly 20 miles to Los Angeles and spent Christmas eve with film friends at Hollywood, returning to the yacht for the night.

Shortly before noon Christmas day the crew hoisted the anchor and Galatea glided away from the yacht anchorage and out to sea.

The first objective of the excursionists was the Santa Catalina Islands, about 30 miles west of the mainland. There they drifted around the islands, hovered over the famous submarine gardens of plant and flower and tree visible through the transparent waters near Avalon, anchored near one of the wharves, in order to amble about the hills of Avalon and vicinity, and then turned the prow of the yacht southward toward San Diego.

They sailed leisurely along, for they had nothing to do but loaf, watch the clouds scudding by, inspect what scenery there was to be inspected along the shore, loaf a little more, speak a passing ship or two, consult the pilot as to handling the boat and do a trifle more loafing. Furthermore, there were places along the coast which Moody wanted to show his companion, a little cove here in which to go in close to shore; a queer formation, there, of rocks near the shoreline, sometimes almost creating an overhead bridge or encircling a bit of water that seemed to form a little lake; a place to debark because of a lovely spot to explore or an interesting location made famous by its early Spanish historical significance.

Thus they did not slip into the yacht harbor at San Diego until two days after Christmas. And they scarcely had left deep water for the inner harbor before the bride informed her adoring husband that she must do some shopping in San Diego.

"There are some kitchen utensils the cook ought to have if he is going to be able to do his best work," she said.

"Well," said hubby, "this boat is supposed to be up to the minute not only in provisions but in equipment, so I don't just understand the situation, but it certainly wouldn't do for you to be unhappy on your honeymoon for the lack of an extra frying pan, so we shall proceed to lay in as big a stock of hardware as you like. Lead the way."

But Helen's pretty roadster had been left behind, perforce, at Wilmington, to await their return, and there was no equipage at the wharf to convey them to the business section. As the travelers gazed around in a quandary as to what steps to take—or, rather, to avoid—to achieve the center of town, an agreeable looking personage approached.

He had been noting their hesitation and announced that if they were going to town he would be glad to give them a lift. Moody scarcely could restrain himself from hugging the man and Helen's well-known countenance typified little poker face no longer. It resembled more nearly the Man in the Moon, wearing his most beatific smile.

The good Samaritan announced himself as R. W. Little, a retired business man, who lived in the vicinity of the yacht anchorage, and when Frederick Junior introduced himself and Mrs. Moody, their automotive host said:

"Well, you didn't exactly need to introduce half of you, because I was pretty sure the young lady was the one I'd watched so long as the world's champion tennis player—in the papers, I mean, of course."

Then he stole a sidelong glance at the proud young husband.

"And if she makes one-tenth as good a wife as she has a tennis player, young man, you're well fixed for life."

"No debate possible," smiled Moody, as Mrs. Moody blushed prettily, "I take the same side of the argument myself."

Little dropped his passengers at one of the well-known San Diego hardware stores. They had been shopping only a few minutes when the ubiquitous newspaper reporter, whose tribe they imagined, was not even aware of their presence in the city, dropped from the clouds, or somewhere, and immediately began to work at his job of propounding queries.

Did Helen like San Diego? Well, she hadn't seen much of it yet but the hardware store. Did they have a pleasant voyage down? Pretty fair, thank you. Did she like yachting? She adored it. Did she intend to quit playing tennis? Decidedly not. She expected to defend her national championship title on the Atlantic Coast next summer and as many more as possible. Did she think art more satisfactory than athletics? Well, yes, a

(*Continued on page 82*)

Advertising index will be found on 3rd last page

COMMUTING

FAMILY COMFORTS

An All-Time Record for Cruiser Sales Broken!!

With Matthews the Leader at the Show!!

DEEP SEA FISHING

A SUMMER HOME AFLOAT

SUMMER CRUISING

ENTERTAINMENT

Blazing new trails of value—new speeds—new comforts—new features of stout and rugged design, Matthews Cruisers swept everything before them at the most brilliant of all Motor Boat Shows. Ten unrivaled 38 and 46-foot models in twenty-four masterful arrangements captured the imaginations of men who have long known the joys of cruising—and those who for the first time are slipping their land-bound moorings for the joys, thrills and sea-free pleasures of their first summer afloat. A staunch handsome hull to sleep four or even six with twenty years' service built into it for $6850 . . . and from this to $15,500. An appeal that includes the whole family—an escape from the commonplace. May we send you the details today?

THE MATTHEWS COMPANY

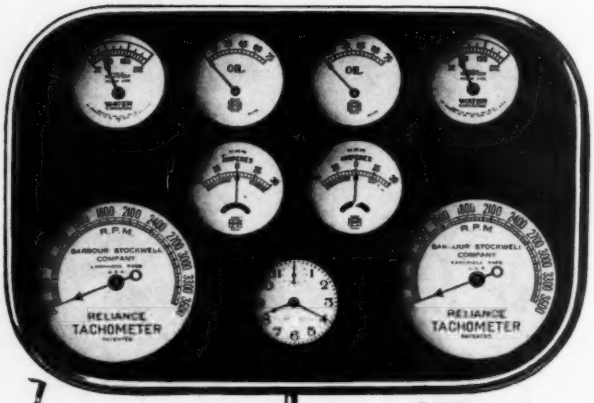
Designers and Builders of Boats of Distinction Since 1890

Port Clinton Ohio

"Matthews 38"

MATTHEWS 46

SALES AND SERVICE—The Barret Co., 112 Second St., Louisville, Ky.; Belle Isle Boat & Engine Co., 8777 E. Jefferson Ave., Detroit; Boardman & Flower, 1740 Van Ness Ave., San Francisco; Bruns, Kimball & Co., cor. 5th Ave. and 15th St., New York City; Florida Branch, 17 McAllister Arcade, Miami; Lake Erie Yacht Brokerage Corp., 1365 W. 117th St., Cleveland; Wm. V. Masson, 421 Munsey Bldg., Baltimore; Mississippi Valley Yacht Sales, Times Bldg., Alton, Ill.; Walter H. Moreton Corp., 1045 Commonwealth Ave., Boston; J. A. Scarlett, 436 East 2nd St., Cincinnati; R. Sealy, Commerce Bldg., Galveston; Robert V. Staats, Inc., 675 So. Park View Los Angeles.



PANEL No. 5B
One of Thirteen de-luxe models available in black or color for fine craft

You need Reliance
INTELLIGENT INSTRUMENTS
for carefree cruising

Pleasure afloat — is measured only by that degree of care-free cruising a boat owner actually enjoys — freedom from engine worry being the first requisite.

Reliance Intelligent Instruments — tell you — at a glance — the innermost working conditions of your engine — forewarning of the slightest change from perfect performance.

Whether you are having a boat built to specification — or your instruments need replacing — there is a Reliance Panel in black or color for every type of craft

Confer with your Architect, Builder, Dealer or with us direct.

BARBOUR STOCKWELL COMPANY
Cambridge, Massachusetts

on boats by
A. C. F.
Auto-Hydro
Consolidated
Dachel-Carter
Elco
Fleetwing
Gar-Wood
Hacker
Luders
Lyon-Tuttle
Seven Seas

on engines by
Bessemer
Buda
Buffalo
Hall-Scott
Sterling
Winton
Wright

PANEL No. 5A on DACHEL CARTER Twin 45 Series

RELIANCE
REG. U. S. PAT. OFF.
PANELS and TACHOMETERS

HELEN WILLS GOES BOATING

(*Continued from page* 80)

one grows older, probably. Would she like to play a game of tennis that day? She certainly would and she intended to, if possible. Was Mr. Little an old friend? Oh, mercy, no! He was merely the kind neighbor to offer a very acceptable lift at a very opportune moment. Would she remain in San Diego long? Oh, yes, quite a while—until nearly nightfall, probably. Where would she go then? Well, that was hard to say. Only Fate—and possibly her husband—knew.

These and many more. Yes, it was a trifle wearing on the bride-tennis champion, but she endured, being naturally gracious and considerably inured to interviews.

The questioning scarcely was over when the young husband and officially-designated-director-of-the-honeymoon-excursion hit the telephone and arranged for his famous wife to play several games at the Courts of the San Diego Naval Hospital. Opponents who were willing to face the affliction of almost-certain-extinction-of-the-reputation at the hands of the fair visitor were not difficult to obtain and several score patients were wheeled out onto the hospital's broad verandas to watch the champion go through her paces.

"That was great!" breathed Helen enthusiastically, her face flushed, at the end of the contests. "Seems good to get back on the courts again after several days away from them. But I am anxious to be on the boat again, too, for I am becoming almost as fond of yachting as I am of my beloved tennis."

It was a balmy day when Galatea spread her sails to the soft breeze and took a deep draft of air the next morning, which carried her out of San Diego's inner harbor, past North Island and the airport on the one hand and Point Loma, with its ever-enduring lighthouse, its widening sweep of land, its many beautiful homes, on the other, to the open sea.

As the trim little vessel moved down the coast from San Diego toward the waters of Mexico, the voyagers saw, now and then, a pretty summer resort, now bereft of its seasonal gaiety; occasionally a small town or village, and here and there a lone house, built by a lover of solitude and the sea, on one of the small cliffs that rim the shore near San Diego, overlooking the seemingly unending stretch of water, like a guardian of its restless moods.

Frequently they fished, for they had brought with them plenty of fishing gear and, according to report, there were quite a number of finny fellows lurking beneath the waves, just aching to see if anyone could catch them. And their Isaak Walton efforts were by no means a failure, either, as their larder and daily bill-of-fare attested. Helen herself proved quite successful with the rod and line, yanking them in like a seasoned fisherman.

"Yes, we caught quite a number of them," she said on her return. "Fred told me the names of some of them, although even he was not on intimate enough terms with some of the others to call them by their first names. But I had trouble remembering the appellations of even those he mentioned to me, though they tasted just as good as though I had been well acquainted with their tribe and habits."

And so the days passed in a dreamy haze of delight as they drifted farther and farther down the coast until they reached Mexican waters and finally Ensenada and beyond.

Ensenada was not so much of a place, as cities go, they found, and yet they were charmed with it. A slumbering little town, dozing in the warm sunshine, with the manners and habits and methods of the Mexicans stamped all over it; a big collection of old adobe houses, some crumbling at the corners; swarms of barefooted children, many of them dirty—though what children playing in the streets are not?—clad in almost anything and often in almost nothing; decidedly primitive in many of its aspects and customs. Yet they discovered that it possessed a fine building for its grammar school, one of the most pretentious and imposing in Western Mexico; one of the best museums to be found in the country outside of Mexico City, and a large military barracks, the soldiers of which regularly interest tourists by standing guard and going through maneuvers at the Hidalgo monument, constructed as a mark of honor to Ensenada's patron saint.

The great bathing beach, one of the finest in the West, also attracted the visitors immensely. A pretty curve rimming the water, its fine, smooth sand stretching for miles along the shore, it was unusually appealing. The couple strolled along its wide reaches and meandered past and through the other points of interest, but they remained a comparatively short time at Ensenada, just long enough to see what was to be seen and to sense its atmosphere, after which they hurried back to their yacht and resumed their ocean journey.

Farther and farther south they went, glimpsing as much of Mexico's scenery as they could from the deck of their boat, with its occasional seaport and town, its beaches, its rugged, low cliffs, its distant mountain ranges and peaks, and then they were

(*Continued on page* 84)

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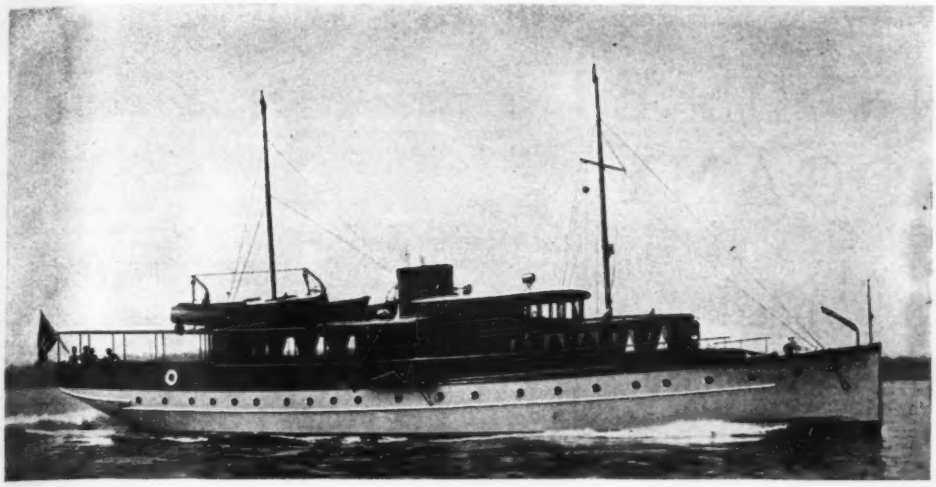
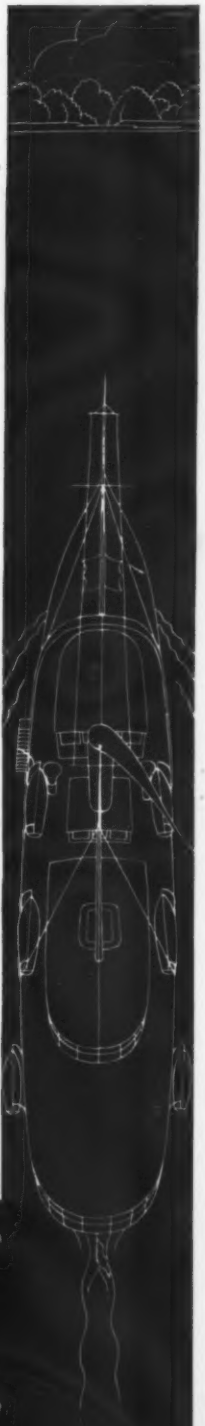


Lux-protected Nirvana IV., built by N. Y. Yacht, Launch & Engine Co.



TOWARD FAR HORIZONS

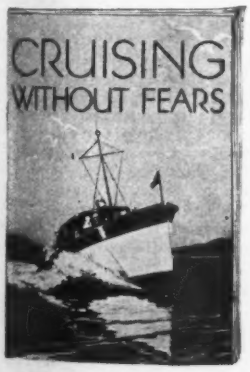
THIS coming season will find more yachts in commission than ever before. Cruises are being planned to take owners and their friends up and down our coasts and into foreign waters. The lure of distant places is easily gratified aboard a yacht.

The pleasures of a sea trip, long or short, must not be dimmed by any sense of insecurity. The ever-present hazard of fire can be eliminated by the installation of a Lux System.

The yacht pictured above is equipped with a remote control Lux System. From a control box in the wheel house the system can be operated to snuff out any fire—large or small—in 10 seconds. Guests and crew are free from the peril of shipboard fire, whether in harbor or far at sea.

A new booklet telling of the security of Lux protection for yachts is now available. It tells how a pull on the Lux Control Handle releases a cloud of Lux gas, completely smothering the fire in less than 10 seconds; how every part of the boat is made safe for passengers and the crew; how every yacht can be protected from the fire hazard by Lux.

Walter Kidde & Company, Inc.
140 Cedar Street
New York



The booklet "Cruising Without Fears" will be sent upon request.

LUX

FIRE EXTINGUISHING SYSTEM

LABELED BY UNDERWRITERS' LABORATORIES

GENUINE MAHOGANY

Adds Speed to Motor Boats

Particularly does this affect the speeding up of sales.

Visualize the strategic position of the builder who can truthfully say . . .

"Our boats are constructed of Genuine Mahogany"

***The* MENGEL COMPANY**

is equipped to promptly supply:

Genuine Mahogany Lumber

in
Selected Lengths
Selected Widths
Of any required moisture content
In any Thickness
and
In any Quantities

THE MENGEL COMPANY

Incorporated

LOUISVILLE, KENTUCKY

HELEN WILLS GOES BOATING

(*Continued from page* 82)

ready to turn the nose of their vessel homeward.

Their voyage thus far had provided them with as delightful weather as one could ask, Galatea moving steadily under spreading canvas, but on their return trip up the coast the skies darkened and shortly a southwester was upon them, lashing the hitherto friendly waves into a belligerent sea, while rain poured violently upon the decks and the scuppers ran full. The bridal pair were glad to remain below, after Moody had assisted in reefing the vessel, until the fury of the storm had abated. The boat thoroughly lived up to her reputation for sturdiness and dependability, coming through the blow almost without a quiver.

This was on Sunday January 5. On the following day the ship sailed into the California Yacht Club's harbor at Wilmington, the skies cleared, the sun beaming again and everybody thoroughly happy. The couple took luncheon at the Yacht Club and, after Mrs. Moody had given full voice to her new-found love of the ocean and of yachting and had declared, her eyes snapping and her cheeks glowing, that she enjoyed every moment of the adventure and had not missed a single meal.

The wanderers spent four or five days in a Los Angeles hotel, during which many motor trips were taken through Southern California, after which their motor car hummed away again for San Francisco and home. An apartment in San Francisco had been furnished for them during their absence. Skipper Ed Watson and his crew piloted Galatea back to San Francisco Bay, as they had done in the opposite direction weeks before.

"It was glorious," said Helen, as she threw herself into her mother's arms on her return. "Oh, mother, you have no idea how wonderful a great wide, spreading ocean, a beautiful yacht and a perfect husband can be!"

"Oh, yes, I have," smiled Mrs. Wills, "I've known for years."

LAWS WHICH MOTOR BOATS MUST OBSERVE

(*Continued from page* 16)

an immediate report must be made to that officer of the government when one of these numbered motor boats is sold, destroyed or abandoned. The only undocumented motor boats operated on navigable waters which are exempt from the obligation of carrying such an official number are public vessels and outboard-propelled craft which do not exceed sixteen feet in length.

The concluding of the existent federal regulations for motor boats has to do with the carrying of passengers for hire on navigable waters. The law prohibits the use of a motor boat for such purposes except when it is in charge of a person who holds a federal license which permits him or her to operate a motor-driven craft for such a purpose. The necessary license, however, is procurable upon formal application at any local office of the United States Steamboat Inspection Service and it is not at all difficult to obtain.

No fee is charged for the license nor is there any technical examination to confront the applicant. Once obtained, the license is good for a period of five years, at the end of which time it must be renewed. But it may be suspended or revoked at any time for any of many reasons, the more common of which are recklessness in navigation, intemperance and gross negligence on the part of the possessor. In addition, it is required further in this respect that, on motor boats engaged in carrying passengers for hire, the life-saving devices be prescribed types and not merely of the approved sort that are permissible for use on motor boats which are not engaged in carrying paying passengers.

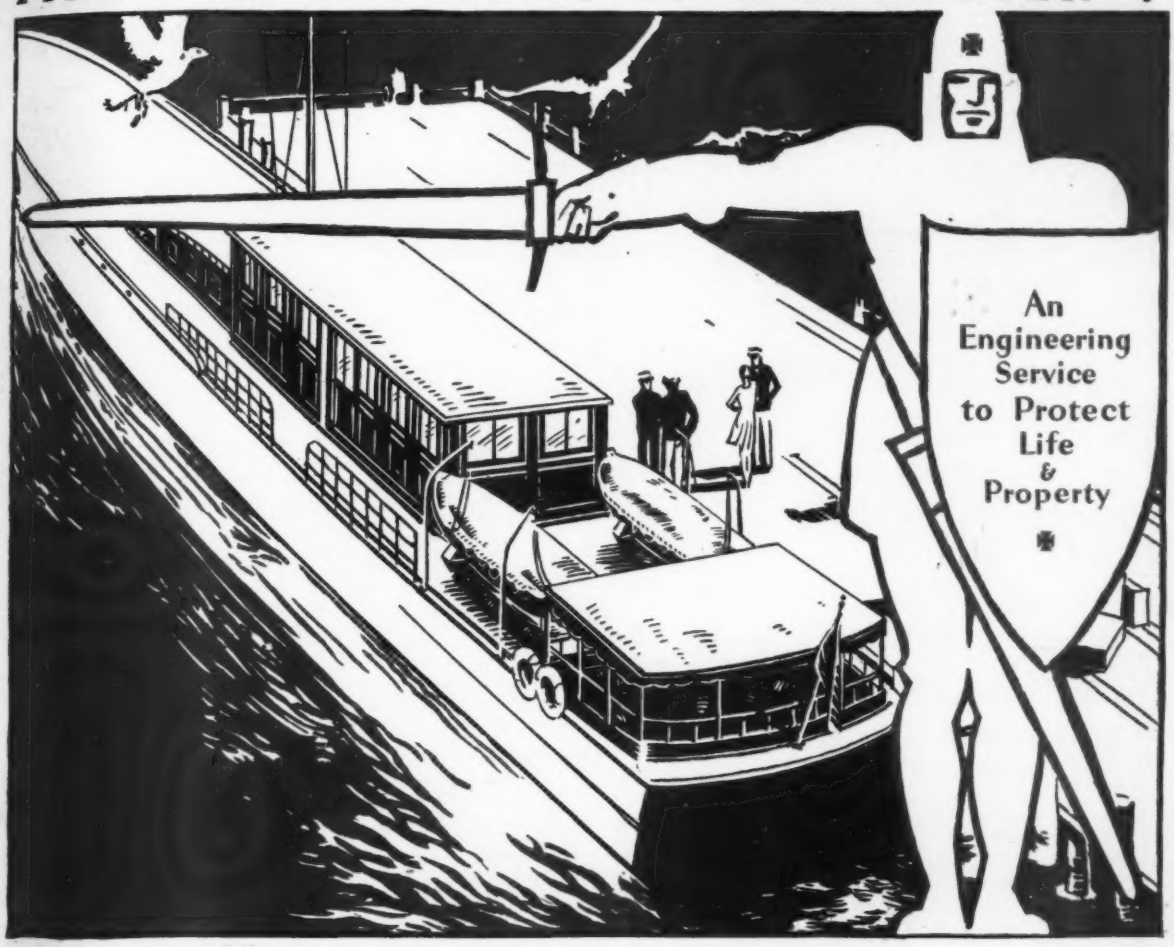
Should any motor boat owner desire to inform himself more minutely upon any of these requirements, he should be guided by the fact that all matters and questions concerning the documentation, numbering and equipment requirements are under the sole jurisdiction of the collector of customs for the district. Further information concerning the Pilot Rules and copies of them are to be obtained from either collectors of customs or at offices of the Steamboat Inspection Service. Likewise, all matters pertaining to the carrying of passengers for hire and the obtaining of the necessary license are handled only at offices of the Steamboat Inspection Service.

RED BANK YACHT CLUB TO RACE STAR CLASS

At a recent meeting of the Red Bank Yacht Club, Red Bank, N. J., it was decided to add sailing races to the list of their activities, the races to be restricted entirely to the Star Class. The Star boats measure about 22½ feet overall with 5 feet 8 inches beam and 3 feet 4 inches draft and provide sporty and interesting racing.

Advertising index will be found on 3rd last page.

FIRE — AN INCIDENT OR A DISASTER ?



Shove off with a gay heart!
You're safe with ALFITE

Yacht or Motor Boat. Cruiser or Racer. Runabout or 90-Footer. Whatever the type or speed or cruising radius of your boat, the ALFITE system can add to your pleasure by protecting you against fire.

ALFITE Gas is stored under pressure in small steel cylinders. From these a simple piping system is run to the danger points where fire may break out. Release valves are connected with a lever, located outside the fire area. Simply pulling this lever releases a cloud of ALFITE Gas that will smother any fire instantly.

When the fire is out, ordinary ventilation removes all trace of the gas. There's nothing to clean up.

No danger of leakage from the cylinders, for this system uses only a single valve which provides a tight seal, yet assures rapid discharge when needed.

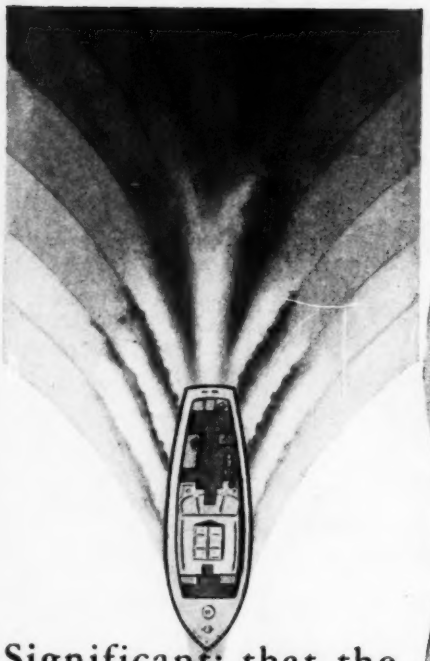
The cost of this sure protection for your boat is moderate. A request from you will bring complete information. American-La France and Foamite Corporation, Department S16, Elmira, New York.

LA FRANCE AND FOAMITE PROTECTION

AN ENGINEERING SERVICE

AGAINST FIRE

"One Fire is Too Many," is a booklet describing and showing typical installations of the ALFITE *System. A free copy is yours on request.*



Significant; that the Show's Most Interesting Cruisers and Runabouts Had Paragon-equipped Motors

EVERY year the Motor Boat Show is greeted as the reliable barometer of what's what in reverse gears and engine equipment. This year, as in the past, we hear the same old, dependable verdict—"Paragon, that Tough, High Speed Reverse."

100% Oil-Tight Enclosed Models

The "90" Line PARAGON REVERSE GEARS

PARAGON GEAR WORKS
602 Cushman Street, Taunton, Mass.

IT TOOK PATIENCE TO BUILD TYEE

(*Continued from page 42*)

actly six inches above the old sheer line.

A ¼-inch batten was then fastened to the stem six inches above the old sheer line at this point and curved back around the tip of the master mold, and thence back to the stern post, where it was passed through a loop of small line, so it could slide forward or back. This batten rested for its entire length on the inch-square cross pieces.

Using my eye the best I knew how, I then gradually worked it into a fair curve from the stem to the tip of the master mold, and from there to the stern, fastening it as I went, and later fairing it up so that the curve from stem to stern was fair and sweet, on both sides, giving me a deck contour and sheer line that met every necessary condition.

With this done, I proceeded to getting out the molds for the rest of the boat.

I prepared a blank (as previously described), and fastened it in place 2 feet forward of the master mold, so that its upper and outer tip rested against the batten I had just installed to indicate the new deck contour line.

From the deck line to the inside edge of the old planking I then, with the aid of the spline, drew in the flare curve slightly less concave than the master mold, as the flare curve must straighten out more and more as it traveled forward.

Each succeeding mold was worked out in this same way, and as they were successively set into place I sighted along the curves to the best of my ability, to see if they were working out according to what I planned. As each half mold was cut out, a duplicate was made from it for the opposite side of the boat and the completed mold was then set in its place and securely fastened.

When the molds forward of the master mold were in place I tacked light battens from the stem aft, a couple of inches apart, to visualize the curve of the flare as formed by the molds. I had evidently sighted my curves about right, for the flare seemed a fair curve, and the contours laterally also seemed perfectly fair.

The rest of the molds were then made, working from the master mold aft, and spacing them approximately 2½ feet apart.

I then sawed from 16-foot lengths of inch cedar planking battens 1½ inch wide. My power saw did the job, saving my back and arms a lot of hard work. The battens were spliced in the usual manner, and I found that three on each side were sufficient. These were nailed fast to each mold and the stem and stern.

The stem and stern posts, by the way, had been lengthened in the conventional manner, with scarfed joints, the extensions held firmly to the old stem and stern post by ⅜-inch galvanized bolts with counter-sunk heads and the nuts inboard. The outboard edges of these extensions were faired up with the existing bow and stern profiles by carefully sighting from a distance of ten or fifteen feet. This sighting must be done with extreme care if the boat's profile is to show the fair curves that it must to look right.

I prolonged the curve of the old rabbet line on these extensions and cut the rabbets in the usual manner, often described in these columns.

With the battens in place I was now ready to go ahead with the job of getting out the new frames. There were 37 pairs of frame in Patience, and this meant I had to get out 37 pairs of new oak frames which would fit for from two to three feet alongside the old frames, with their upper ends curved to form the contours of the new planking with flare forward and slight tumble home aft.

Each pair of these frames was different from any other pair, and as I had no naval architect's drawings from which to lay them out, I used the old contour method previously described. But to do it more rapidly I built me a contour gage, as shown in the photograph. An inch board about 3 inches wide and 3 feet long. A notched piece fastened to its face, with movable gage points passing through the notches and held firmly at any point by thumb screws, which I made from ordinary screws, in the slots of which I soldered pieces of galvanized iron ½ by 1 inch. The points of the screws were ground off flat. In the lower end of the board mounting the contour gages and extending at an angle of 45 degrees from the corner toward the gage points, I sank a spud made from a nail, leaving its sharp point extending out about ¼ inch. In putting the gage against the inside of the old planking, to get a contour, this spud, forced into the plank, held the gage perpendicularly in place till the gage points were all set.

I took contours at approximately every third frame, as I found this would take care of the changing curves. Setting the gage in place I would adjust the gage points to the inside curve of the planking, being sure that one point rested at the inside edge of the top plank, where the old curve left off and the new one began.

(*Continued on page 88*)

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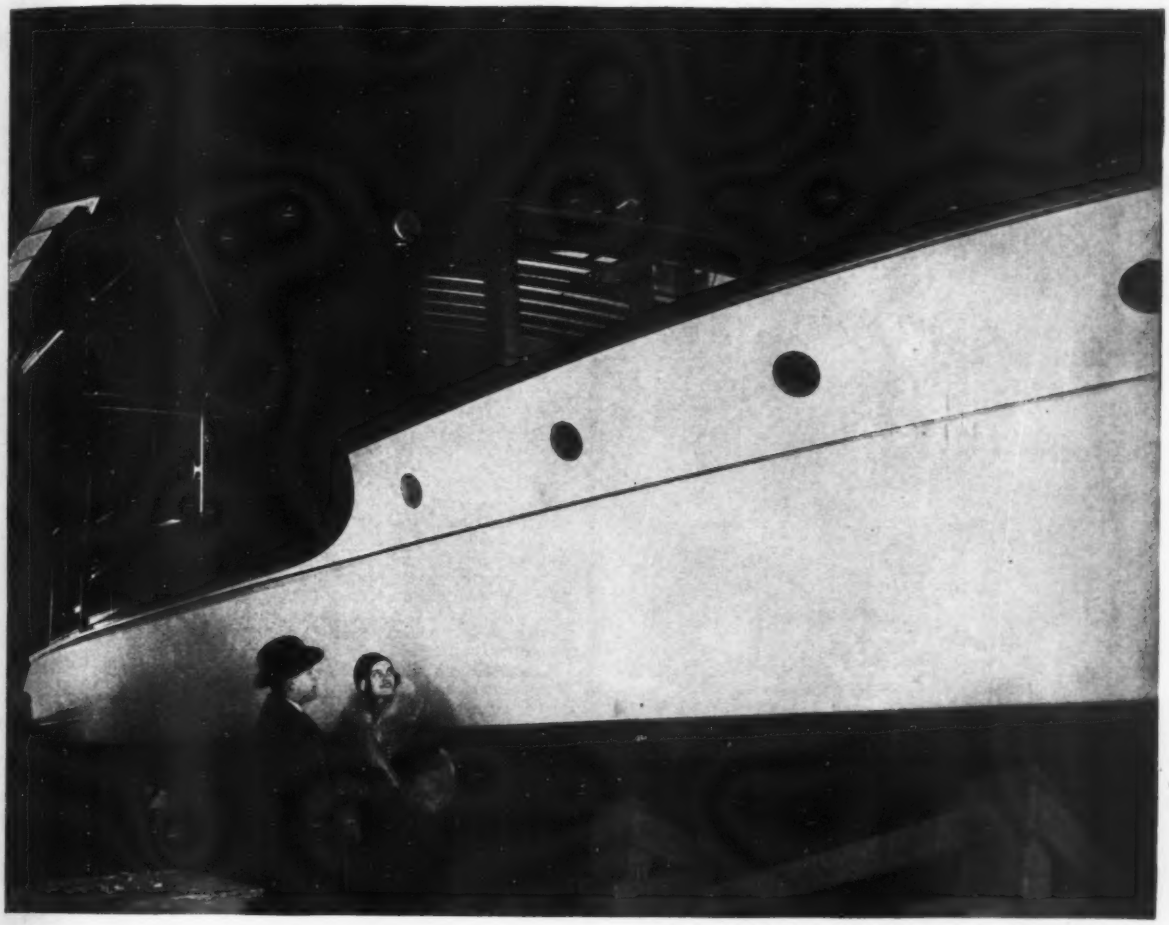
A hull they love to touch



WE'VE watched them... Dawn owners with a boat in building or in storage during the winter. They would say, if asked, that they are just feeling for imperfections but we know . . . the touch is just a fond caress. The beauty of line of a Dawn Cruiser . . . the superb joiner work and finish, luxurious upholstery and heavy, solid hardware never fail to win the heart of the true yachtsman. And she handles well. Powerful twin engines, centralized controls and perfect design of hull all contribute to performance and seaworthiness. It is really necessary for you to go aboard a Dawn Cruiser to appreciate her. You are cordially invited to do so at our yard. If it is impossible for you to call, let us send you our latest catalogue.

DAWN
TWIN-SCREW CRUISERS

DAWN. BOAT CORPORATION

Clason Point . . . New York City . . . *Established 1906* . . . Telephone Westchester 7000

Dawn 45-footer . . . Powered by twin-Lathrops, each 70 HP. . . . Speed 14 M. P. H. . . . $16,900 afloat at Clason Point
Dawn 48-footer Express . . . Powered by twin Sterling Petrels, each 150 HP. . . . Speed 20 M. P. H. . . . $23,800 afloat at Clason Point

LEE Blower

In a recent ruling, the National Association of Boat and Engine Manufacturers, in collaboration with the Insurance Companies, strongly recommend the use of a power blower in the engine compartment of every boat. The Lee Blower meets this requirement in every way and adds much to the value of safety in eliminating foul gases from this confined space.

Your boat should not be without this safety device furnished in 6, 12, 32 and 110 volts.

Immediate deliveries.

S. CLYDE KYLE

General Motors Building

1775 Broadway New York City

A NOVEL BUSINESS

(*Continued from page* 45)

and this often gave the people confidence who otherwise might have thought him rather young for such responsible work.

The appearance of his boat always attracted attention—which was a great factor in making people interested. It was such a work of art that wherever it went people collected to examine it. Richard realized that his boat should always be clean and polished, because he was catering to a class of people who were used to this sort of thing. And so every day he made it a habit to go over the entire boat and just polish her up. In this way—when the season closed, on Labor Day, his boat was in just as good condition as she was in July when he had received her from the factory.

Labor Day came, and all too quickly for this young business man. People left their Summer homes and he had to be back in school. So he took the boat to the boatman down the lake who was to keep her until the following year. It was with regret that he left her there, after the wonderful Summer he had had with her. She had become a pal of his, and every trip out on the lake only added to this feeling.

He looked at his books. Incidentally, one of the conditions under which his father had loaned him the money was that he keep a book recording all money spent as well as taken in. He was going to receive some business experience out of the venture, said his father, who appreciated what it might do for his son. So when he added up all the money spent for gasoline and oil and things like printing, and balanced this against all his earnings, he found that he had cleared over $1,000.00 for the Summer's effort. $1,026.00, to be exact, was Richard Evans' profit for his six weeks' work. Richard was indeed pleased, but only sorry that he hadn't done more.

Naturally his father was delighted to see how well his son had done, as he also was to see the business experience it had afforded him. The boy had contracted for all his gasoline and oil and sundries and Dick told his father that next Spring he was going to have his own gasoline tank installed, which would save him about two cents on every gallon he used. There was no motor expense whatsoever and no repairs had to be made on the Chrysler marine motor.

Richard is most optimistic as to the business next year. He says with everybody knowing his service he will have all he can do to handle it alone. He may take on an assistant then to take care of the rush business. By next Labor Day he says he will have repaid the entire debt to his father and will own his own boat. He plans to run her three more years and in that time make enough to get a faster one. With this he can charge a higher rate and take more passengers. Then, too, with the faster boat he can enter the motor boat races on the lake with a good chance of winning some of these. There surely is a young business man in the making. He is to be congratulated on the idea of his and the successful way in which he is carrying it through to completion.

IT TOOK PATIENCE TO BUILD TYEE

(*Continued from page* 86)

The upper gage points would then be adjusted to the inside faces of the battens, with the topmost point at the sheer line.

Laying the gage on a one-inch board, I would mark the points and then lay out a fair curve to them with my spline. In laying out this curve, however, I would bring the lowest point of the curve somewhat in from the true curve of the old planking, and the topmost curve somewhat outward from the point of the flare. This to allow for the slight straightening out of the frame after it was bent and taken from the mold. Just how much allowance to make for this change in shape is hard to state, it is a matter of judgment and is soon learned in actual practice.

I found that I could often use the same mold for eight or ten frames by getting the contours, laying them down on the mold, and then trimming the mold slightly to conform to the slightly changed curve.

Two frames, of course, are bent to each mold, for opposite sides of the boat at the same station.

(*To be Continued*)

PHANTOM III DIESEL POWERED

Phantom III, designed by Henry C. Grebe & Co., Inc., and recently completed at the yards of the Great Lakes Boat Building Company, is one of the most attractive of the many fine boats built on the Great Lakes last season. Phantom III is an even 70 feet in overall length with 14-foot beam and 4-foot, 6-inch draft. For power she carries a pair of new type 150 horsepower Winton Diesel engines which combine a high degree of efficiency in operation as well as an excellent speed of 18 miles an hour. Exceptionally roomy and comfortable accommodations are provided and the auxiliary equipment is unusually complete.

Advertising index will be found on 3rd last page.

THREE NEW MODELS BY KERMATH

The first member of the new Kermath trio is the powerful 175 H.P. overhead Six. Having a bore of 5" and a stroke of 5½", with a piston displacement of 648 cubic inches, this model develops 175 H.P., with a speed range of 2200 to 2400 R.P.M.

This six-cylinder model has been thoroughly tested for five years as both a fast cruiser and runabout power plant, and has met with the unqualified approval of the most successful, most prominent and most exacting boat builders.

Here is sturdiness and dependability of the year-in and year-out quality.

Extra large drop forged crankshaft with 7 main bearings. The latest light alloy Invar Strut Pistons, which insure greater power—increased pep.

The 175 Kermath is destined to be a very popular model during the coming season.

This new 225 H.P. design—Kermath's latest development in the super power class—possesses advanced engineering refinements of noteworthy importance.

Stout seven-bearing crank shaft is in perfect static and dynamic balance. Crankcase ventilating system serves the ends of absolute safety.

A new reverse gear and clutch meet every demand of increased power load. 678 cubic inches deliver maximum usable horsepower. Dual valve-in-head design represents the last word in valve action for instant acceleration.

Down draft carburetion affords maximum power. Oil cooler and rectifier—a high speed full capacity fuel pump—a specially designed salt water resisting Delco ignition and starting unit and a backfire arrester are all new features to give boat owners the grandest power plant ever offered for high speed use.

The new 200 horsepower L head Kermath Six (5"x5¾" bore and stroke) is the ideal power for light fast cruisers and runabouts.

For in this model are also incorporated down draft carburetion and its consequent increased horsepower advantages — powerful torque or turning effort at usable cruiser speeds eliminates the need of reduction gears, while abundant power is available at 2200 R.P.M. for high speed use.

Other outstanding features are chrome nickel steel cylinder blocks with a Brinnel test of 200 hardness — spark advance adjustment while motor is operating—new type oil cooler and filter of special Kermath design—special crank case ventilating system—large crankshaft set in extra large main bearings—force feed lubrication to all rotating parts.

The Kermath "200," like all other Kermath sixes, is now available in true right and left hand power units.

4 to 225 H.P. $295 to $2300

Send for Literature

KERMATH MANUFACTURING COMPANY

5879 Commonwealth Avenue - - - - - - - Detroit, Mich.
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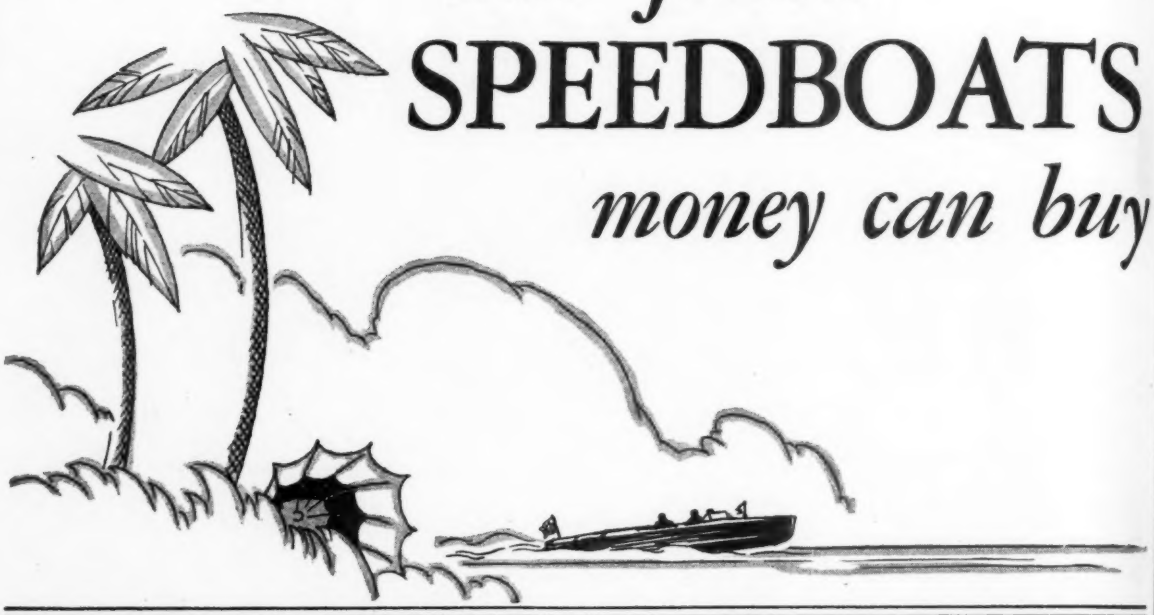
A KERMATH ALWAYS RUNS

The finest SPEEDBOATS *money can buy*



The Hackercraft Fleet of all-mahogany speed boats includes the 24-, 26-, 30-foot Runabouts and the 38-foot Cruiser-Commuter.

AMERICA'S FASTEST SPEEDBOATS

Advertising index will be found on 3rd last page.

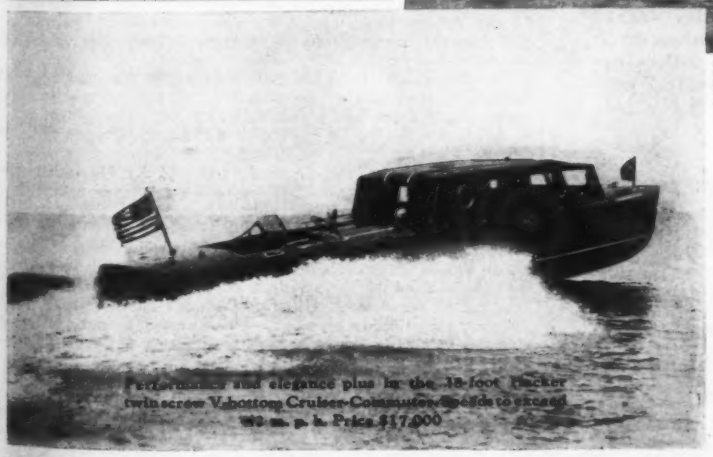
are HACKER BOATS

Plan on motor boating now. No other sport offers its equivalent in health, spirited thrills and real safety. No other sport offers every member of the family an equal opportunity to revel in the delights of the out-of-doors afloat. And you will find no other boat offering so much in hand-wrought beauty . . . in enduring design . . . in speed . . . staunchness . . . trim comforts . . . or maneuverability as a genuine Honduras mahogany Hackercraft! Compare thirty-six years' designing and building experience—an illustrious background of world famous racing triumphs—speed records in stock boat design without a parallel—a tangible superiority of performance. Hackercraft ownership is sought out by sportsmen and yachtsmen who know the advantages of paying slightly more for a better product.

HACKER BOAT COMPANY
530 RIVER DRIVE—MT. CLEMENS, MICH.

On Display
NEW YORK: 5th Ave. at 15th St.; BOSTON: 1043 Commonwealth Ave.; CHICAGO: Motor Boat Mart, Navy Pier; DETROIT: 7433 E. Jefferson

The 30-foot Hackercraft is the [illegible] runabout afloat—the "30" is certainly the most beautiful. Priced at $4,495 and $5,500



Performance and elegance plus in the 38-foot Hacker twin screw V-bottom Cruiser-Commuter. Speeds to exceed [illegible] m. p. h. Price $17,000

Ask for this handsomely illustrated catalog

HACKERCRAFT

Here's a Polish That Leaves No White Deposit

NOTHING mars a polishing job like a chalky, white deposit left in seams and crevices. I. C. U. Metal Polish imparts a high, lasting lustre to brass, copper, bronze and other polishable metals, with little labor, and without a white deposit.

It is harmless, non-acid, greaseless. An ideal polish for marine use, for, by its chemical make-up, it produces a lustre that tends strongly to delay tarnishing.

Sold in the marine field for many years. If not at your dealer's, we will be glad to send you a sample free—or any of the following sizes prepaid: 1 gal., $1.75; 1 qt., $.75; 1 pt., $.45. Give name of your dealer with order.

Dealers—Write!

THE LIVINGSTON CO., DIV. T
NEW HAVEN, CONN.

I·C·U
METAL POLISH
for BRASS, COPPER, BRONZE

U.S.A. AN INTERNATIONAL FLYER

(*Continued from page* 51)

under way; rather water will be sucked from the hull. Excellent self bailers can be made by simply boring a hole each side the keel in each step and fitting a brass flap outside that swings from its top on small brass staples.

The bottom planking will be laid in two thicknesses. The inner ¼ inch cedar, the outer with ¼ inch mahogany or white cedar. The inside skin will run from the keel diagonally leading aft. Note there is a bilge batten through the middle of the bottom made from ⅜ by 3 inch white oak. This will, of course, be let into the frames and flush with the bottoms of these members. It will be fastened to the frames with brass screws. The inner planking will be fastened with galvanized small nails, and when all in place should be covered with the outer skin. Between these there will be a coat of Jeffry's marine glue. This should be

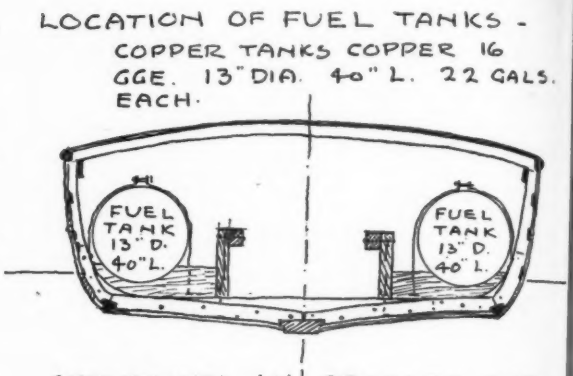

LOCATION OF FUEL TANKS -
COPPER TANKS COPPER 16
GGE. 13" DIA. 40" L. 22 GALS.
EACH.
FUEL TANK 13" D. 40" L.
FUEL TANK 13" D. 40" L.
SET TANKS IN CRADLES AND
CLAMP SECURE WITH 1/16" X 2"
SOFT COPPER STRAPS - PAD WELL
WITH COTTON DUCK. FUEL SUPPLY
BY AUTO-PULSE. TWO SPLASH PLATES
IN EACH TANK. 3" FILLER PLATES.

FIGURE 4

The method of placing and securing the fuel tanks

applied as the outer planks are fastened. Do not coat the whole bottom at one time. The outer planking will be fastened with brass screws. Be generous in the use of these. The outer planking extends fore and aft.

The side planking will be single thickness mahogany ⅜ inches thick. Put four strakes on each side, fitting battens behind the seams made from ⅜ by 2 inch white oak. The battens will be in single lengths let in flush with the frames. Fasten with brass screws.

The deck beams will be made from ⅝ by 1¾ inch airplane spruce and set as shown. Decking will be ¼ inch thick plywood of the best grade and laid with the grain of the outer layers running fore and aft. Screw down the plywood. Plywood of the same thickness will be used also for the two watertight bulkheads shown on station 3 and the after step. These bulkheads contribute a lot to the strength of the structure and should be fastened to the frames with brass screws closely spaced.

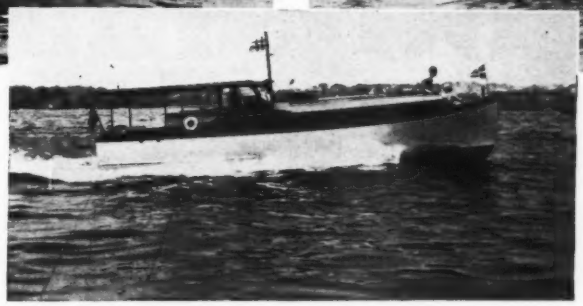
Cover the deck plywood with heavy unbleached muslin stretched tightly and coated with airplane dope. It will draw very tight when this preparation dries.

Coaming will be made from ⅜ inch mahogany and all the inside trim including seats, sheer mouldings, etc.

The rudder is placed under the forward strut where it is most effective and easy to connect up. It should be built up from ½ inch diameter Everdur shafting slotted to take a 3/16 inch thick bronze plate. If shaped as shown in Figure 3 it will be satisfactory. A light pattern bronze stuffing box will be bolted having its flange set across the keel so as to better take the wring of the post when the rudder is turned. A 10 inch radius quadrant and wire steering rope led to a metal drum on the steering post

(*Continued on page* 96)

Advertising index will be found on 3rd last page.



Wheeler Shipyard of Brooklyn, N. Y., builders of the famous "PLAYMATE" Sea Skiffs and Cruisers, enhance the beauty of their boats with Climax Boat Paints.

The illustrations show Wheeler "Playmate" 26-foot, 36-foot Standard and 36-foot Double Cabin Cruisers, 1930 models.

Climax Has Revolutionized Boat Finishing

A BOAT finished with Climax Boat Paints is "a thing of beauty and a joy forever," a source of pride to builder and owner alike.

Both in new beauty of finish and in the number of leading boat builders whose 1930 models were finished with Climax Boat Paints, the New York Show was a revelation.

While the boat builders are flocking to Climax Boat Paints because they make possible finer and longer lasting finishes and at the same time economize time and labor in the finishing processes, owners are equally interested in the fact that boats finished by the Climax method require less frequent refinishing and can be refinished with less time and effort.

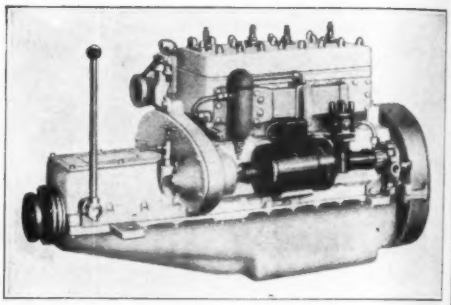
An important thing to know about the boat you buy is whether or not it is finished with CLIMAKOTE flat coater and CLIMAX Bottom Paints, and CLIMAX BLACK or YACHT WHITE. If it is a Climax finished boat, you'll save money on its upkeep.

THE CLIMAX CLEANER MFG. CO., CLEVELAND, OHIO

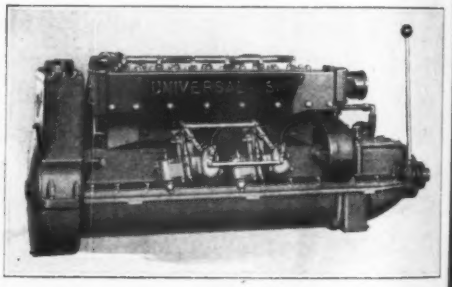
New England Office: **282 Moody St., Waltham, Mass.** ***Pacific Coast Office:*** **135 South Swall Drive, Los Angeles, Calif.**

CLIMAX BOAT PAINTS

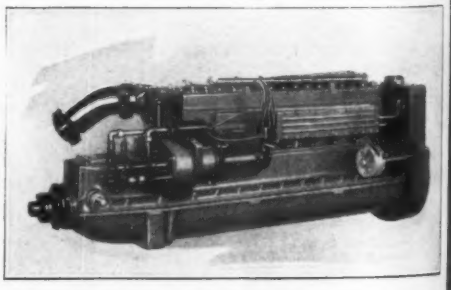
why 100% marine



THE BLUE JACKET A New Motor. A New Market. Small Runabouts, Blue Jacket powered, now provide the speed, the appearance and convenience of $3000 runabouts for less than half the price. The BLUE JACKET is a LIGHT WEIGHT, HIGH SPEED, four cylinder, four cycle, 100 per cent Marine Motor. Bore and stroke 3" by 3½" (99 cubic inch displacement). Speed range of 100 to 4000 R.P.M. Develops 45 Brake Horse Power. Weighs only 225 to 300 pounds, depending on the equipment.



SIX-77 / SIX-88 The New Six for 1930. New, improved Manifold and larger ports have greatly increased the power (ratings conservative) and improved performance. New improved alloy iron castings. New extra cylinder head studding, 8 studs to each cylinder. New improved foundry process makes for smoother and better castings. New Universal built-in Oil Cooler. New Water Distributing Plate. New improved reverse gear. New Universal Built-in Flame Arrester and Drip Bowl. New, handsome Instrument Panel. New, improved Electrical Equipment. New Permite Piston with cast-in strut. New precision manufacturing with much closer tolerances than used in regular production practice makes for better and finer 100 per cent Marine Motors.



EIGHT-115 The New Eight for 1930. New, improved Manifold and larger ports have greatly increased the power (ratings conservative) and improved performance. New improved alloy iron castings. New extra cylinder head studding, 8 studs to each cylinder. New improved foundry process makes for smoother and better castings. New two-piece cylinder head. New Universal built-in Oil Cooler. New Water Distributing Plate. New improved reverse gear. New Universal Built-in Flame Arrester and Drip Bowl. New, handsome Instrument Panel. New, improved Electrical Equipment. New Permite Piston with cast-in strut. New precision manufacturing with much closer tolerances than used in regular production practice makes for better and finer 100 per cent Marine Motors.

UNIVERSAL

Advertising index will be found on 3rd last page.

Universal MOTOR CO.

means 100% good
in UNIVERSAL *MARINE* MOTORS

Boat builders and boat owners alike who examined the Universal line at the New York Show are unanimous in applauding the quality of Universals for marine use.

They noted these distinctive features—the true measures of the performance and long life which can be expected of Universals in the hardest kind of use:

1 Blow-bys of cylinder head gaskets are absolutely prevented by the use of eight studs to each cylinder.

2 Correct cooling under the conditions prevailing in marine use is assured through proper distribution of water by specially designed distribution plates.

3 Main bearings at the reverse gear end where the crankshaft load is taken are extra large to prevent wear and play.

4 All lubrication is full pressure feed. Built-in oil coolers and carbon-removing filters assure perfect lubrication.

5 Cylinder heads, manifolds, blocks, and pistons are specially cast of special alloys and in new designs to assure perfect heat distribution, to preclude uneven expansion, and to prevent pre-ignition.

6 Convenience of maintenance is assured by great accessibility of operating parts. Water jackets are readily cleanable. Crankcases are cast separate from cylinder blocks. Reverse gears are quickly removable. Crankshaft bearings are doweled into crankcase to make misalignment impossible. Tappet guides are removable.

7 Accessories and equipment are not only unusually complete but are designed to operate in harmony with the motors.

These and a hundred other distinctive features are making Universal Motors the most talked-about, and the most sought-after motors in their classes. There's a Universal to fit your boat.

THE BLUE JACKET · THE FLEXIFOUR · THE SUPER-FOUR · THE SIX-77 · THE SIX-88
THE EIGHT-115 · THE SINGLE, 6-8 H. P.

UNIVERSAL MOTOR COMPANY 210 Harrison St. Oshkosh, Wisconsin
New York Showroom: 44 Warren St. London Showroom: 22 George St., Hanover Square West

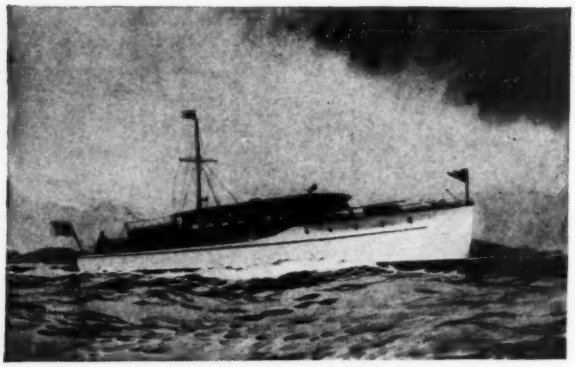
MARINE MOTORS

Get Your Copy of Our New Year Book

UNIVERSAL MOTOR CO., 210 Harrison St., Oshkosh, Wisconsin
Please send me your 1930 year book containing 40 pages of valuable data on the new Universal Motors and their use.

Name.....
Address.....
City..... State.....

Speed...Power...Strength...



The "DAUNTLESS 60"

THIS express cruiser is the latest development of Millard, Brewster & Chambers, Inc. She is now under construction by Dauntless experts, and will be ready for May delivery.

Powered with two Sterling Dolphin engines, she has a sustained cruising speed of twenty miles per hour. Every convenience known to modern yachting is supplied. Two very large double staterooms, a most luxurious deck saloon, ample deck space and comfortable crew's quarters make her everything you could want a small yacht to be.

The man or woman who really knows boats will be delighted with the quality of materials and the care of construction shown on the custom-built "Dauntless 60".

For further particulars and price, apply to Millard, Brewster & Chambers, Inc.

MILLARD, BREWSTER & CHAMBERS, INC.

230 Park Avenue New York, N. Y.

NAVAL ARCHITECTS — *Telephone* VANderbilt 10167 — YACHT BROKERS

Cable Address — MILBRECH

Representatives for

Noyes Marine Sales Co., 305 Congress St., Boston, Mass.

U.S.A. AN INTERNATIONAL FLYER

(Continued from page 92)

connects the thing up. One of the manufactured geared steerers will be equally as good as this arrangement if it is preferred.

The strut and its details are shown in Figure 2. This will be cast in bronze and should be polished. Do not have the bearing bushed; let the shaft turn in the bronze but allow at least .02 inch clearance. I should bell mouth the ends of the strut bearing so as to induce water to flow through and lubricate the bearing. The leg will be ⅞ inch thick at the base and ¾ inch at the hub. The base will be 4 by 8 inches and 3/16 inch thick. Have the pattern for the strut made from the boat and not the plan so far as the drop of the hub is concerned.

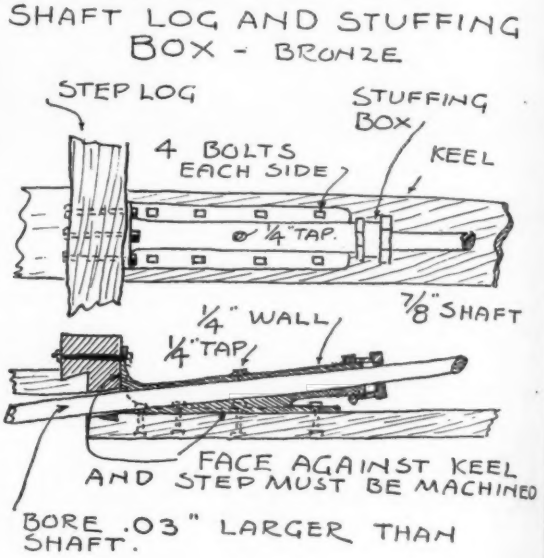


FIGURE 6

Detail of the special shaftlog and stuffing box casting

The fuel tanks will have a capacity of 22 gallons each. These will be made from 22 gauge copper, fitted with two splash plates and hard soldered. The diameter will be 13 inches and the length 40 inches. They will be set in wooden cradles and held in place with 1/16 inch copper straps. Suitable padding must be under all bearing surfaces. Fuel supply will be by Autopulse and fuel lines of flexible copper tubing, with solderless connections.

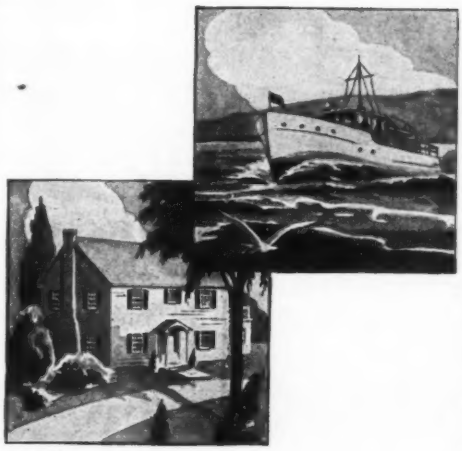
And now we seem to have reached the end of the building and fitting out of U. S. A.

Folks contemplating building can obtain complete blue prints drawn to a scale of ¾ inch to the foot at a nominal cost by addressing the Editor, MoToR Boating, 959 Eighth Avenue, New York, N. Y. Useful books on boat building and design are also available. Circular on request.

REVISION TO YACHT CLUB DIRECTORY

On page 66 of the January issue of MoToR BoatinG the names of three yacht clubs were included under the San Francisco Bay division which, according to information recently received, are no longer in existence—the Sequoia, the Humboldt Bay and the Motor Boat Club of Eureka. It is suggested that readers who have preserved this list with the intent of availing themselves some time of the courtesies of a yacht club in this vicinity, remove these names from the directory. Our correspondent, who has valuable local knowledge of this territory also states that there are certain points which yachtsmen should observe if they should find it necessary to come into Humboldt Bay for fuel or provisions. He states that the bar at the entrance is a bad one and should not be attempted by a small boat on ebb tide except in fine weather. Furthermore if fishing boats are going in it is desirable to follow them rather than the larger steamers as it is often possible to make a safe passage close around the end of the south jetty when it is breaking in the main channel. Finally he suggests that if the weather is at all bad, the end of the south jetty should be approached from the south, and if conditions look at all unfavorable, it is more advisable for small craft to stay outside.

Advertising index will be found on 3rd last page.



$49 without accessories

Crosley 21. Metal case. Utilizes six tubes, including THREE 222 Screen Grid Battery tubes. With legs, $54. Receiver 7¾" high, 17¾" wide, 11¾" deep. Speaker: 10½" high, 9½" wide, 6½" deep. Crosley Dynacone Speaker $18 extra.

Western prices slightly higher

On land or sea . . . . .

"you're there with a CROSLEY"

FOR your home on land, you demand the finest radio performance. And if there's a Crosley Radio aboard your craft you may expect the same clear tone, the same selectivity and volume when you're "sailing the high seas!" For hundreds of yacht and cruiser owners have installed Crosley sets and pronounced them—"sea-worthy."

Wherever you may be, Crosley Screen Grid Battery Sets (operating with the famous Dynacone Speaker) will faithfully reproduce the news and entertainment you want to hear. And yet these remarkable battery receivers require a minimum of current—the drain on batteries is *25 per cent less* than with ordinary sets!

Crosley 22. The same Screen Grid storage battery unit as in Crosley 21 is incorporated in a beautiful console cabinet of two-tone walnut veneer, complete with the Crosley Dynacone power speaker. Dimensions: 40" high, 24" wide, 14¾" deep.

$88.50

without tubes or batteries

Western prices slightly higher

Crosley Screen Grid Battery Sets are attractively finished, and ingeniously designed to fit into small space. After you've seen them, after you've heard their remarkable tone, you'll wonder how they can be offered at such amazingly low prices.

Ask an authorized Crosley dealer to show you these perfected battery sets. Or if you prefer, write direct to us.

THE CROSLEY RADIO CORPORATION
Powel Crosley, Jr., Pres.
CINCINNATI, OHIO
Home of WLW—"the Nation's Station"

In addition to the Battery Sets shown here, The Crosley Radio Corporation makes a complete line of 110-volt A.C. and 110-volt D.C. radio receivers for use on cruisers where such current is available

Are You Being Misled by the Word "Genuine"?

PHILIPPINE

INDOAKO

WOOD

is used by these and many other prominent boat builders:

Chris Smith & Sons
The Matthews Company
Elco Works
Consolidated Shipbldg. Co.
N. Y. Yacht, Launch & Eng. Co.
Gar Wood, Inc.
Corsair Boats
Dart Boats
Mullins Boat Corp.
Richardson Boat Co.
Rochester Boat Works
Staples, Johnson & Co.
Century Boat Co.
Lyman Boat Co.
Chase-Emerson Co.
D. N. Kelley & Son
Old Town Canoe Co.
Penn Yan Boat Co.
Cliff S. Hadley
Delaware Bay Shipbldg. Co.
Huckins Yacht Bldg. Co.
Johnson Motor Craft
L. R. Wilkinson
Thompson Boat Co.

WHAT is all this talk about the word "genuine" when applied to wood for boats?

Are you building or buying boats in which the only virtue of every material used is the fact that it is "genuine" something or other? Would you be content if you knew that there was "genuine" lead in your life preservers or that your anchor was made of "genuine" aluminum?

Seriously, we want to impress on you the fact that demonstrably the best wood for planking, decking or joiner work is our high land Philippine INDOAKO Wood (formerly sold by us as "Philippine Mahogany"). This is no mere claim, intended to take business away from any other manufacturer of lumber, but a simple statement of fact, backed up, not only by tests available to every one, but by the fact that the majority of motor boat manufacturers are using INDOAKO Wood and that they have been using this lumber for many years past.

We respectfully suggest that boat builders and boat buyers insist on the wood best suited for the purpose and if you must insist on "genuine" something—insist on "genuine" Philippine INDOAKO Wood.

AN EFFORT is being made at the present time to make capital of the term "GENUINE" Mahogany, coupled with the implication that the Philippine lumber dealers are deceiving the public by offering them an inferior wood as the equal of the "genuine" article. THIS IS NOT THE CASE.

We manufacture and deal in the genuine Swietenia ourselves and have no quarrel with the *proper use* of the term "genuine Mahogany."

Philippine INDOAKO Wood, while not botanically of the same species as Central and South American Mahoganies, has all the mahogany characteristics such as beauty of grain, strength and durability, ease of finish, and, in addition, has virtues of its own beyond those of the botanical mahoganies—that is, for the particular use of the boat builder:

1. Freedom from defects
2. Greater freedom from splitting
3. Lightness of weight
4. Minimum absorption of water
5. Moderate cost
6. Comparative immunity from teredo attack
7. Freedom from corrosion at fastenings
8. Unlimited supply
9. Virgin timber producing superior widths and lengths.

Samples for comparison and tests will be gladly furnished

INDIANA QUARTERED OAK COMPANY

222 East Ave., Long Island City, N. Y.

PHILIPPINE INDOAKO WOOD

Trade Mark Reg.

Advertising index will be found on 3rd last page.

The Truth about PHILIPPINE MAHOGANY

A figured panel of Philippine Mahogany.

INASMUCH as the great majority of motor boats today are constructed largely of Philippine Mahogany, the boat owner is entitled to the facts about this remarkable wood, especially in view of the fact that a great deal of misinformation is being disseminated tending to reflect on the integrity of this company and those of our associates in this business.

Philippine Mahogany is being used so universally in the boat building industry solely because it meets the requirements of this industry as no other wood ever has. *Not* because it is "masquerading" as South American or Central American or any other so-called "genuine" mahogany, but because in addition to its resemblance to the botanical mahogany, it has the added virtues of greater strength and durability, greater freedom from splitting, lighter weight, minimum absorption of water, comparative immunity from the attacks of the teredo worm, freedom from stain at fastenings, and moderate cost. In addition, the supply of Philippine Mahogany, as furnished by this company, is practically unlimited.

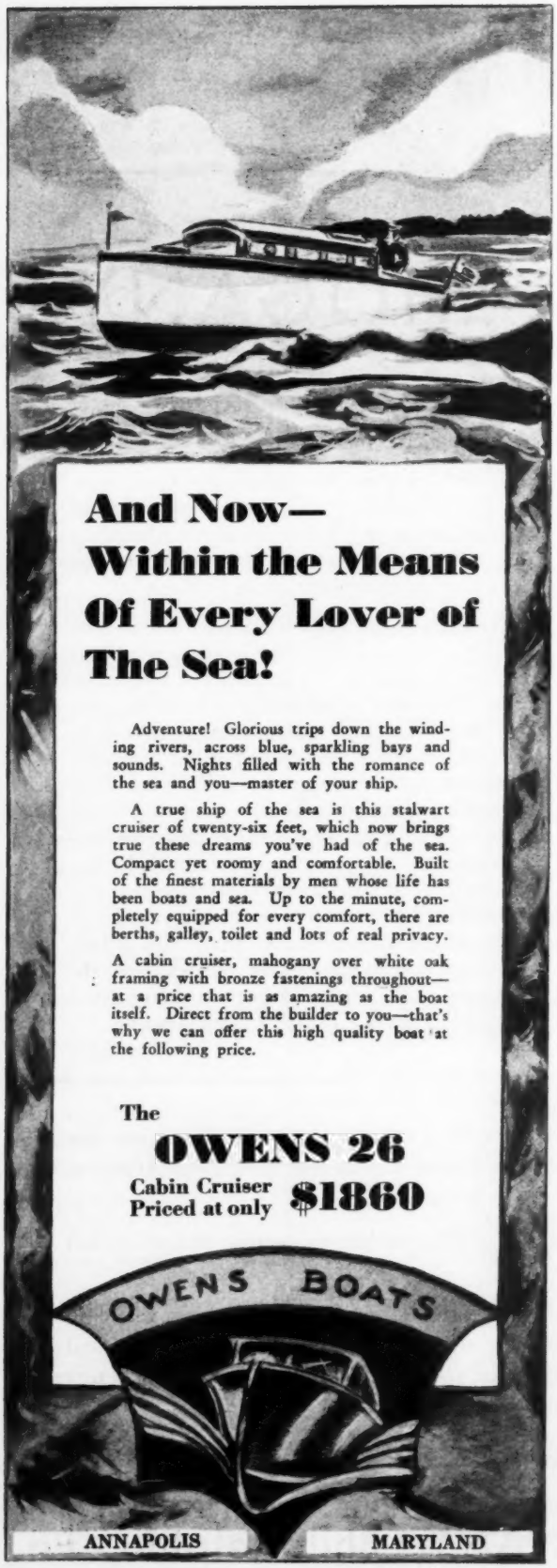
THE Philippine Mahogany of the Insular Lumber Company is virgin timber, cut and sawn into fine widths and good lengths right at our mills in the Philippines. It is all high land timber, being cut at an elevation of 1,800 feet, which accounts for its very fine texture.

Its moderate cost, mentioned above, is not due to inferior quality, but being a product of a possession of the United States, it is free from duty.

The finest boats today are using Philippine Mahogany, especially in planking and decking, where, in addition to its characteristic of minimum absorption of water, its light weight, teredo immunity, and resistance to decay, its beautiful quarter sawn ribbon grain, and its wonderful color add extra beauty to an already beautiful boat.

You can be proud of your boat if the builder says, "The wood is Philippine Mahogany."

INSULAR LUMBER COMPANY, Philadelphia, Pa.


And Now—
Within the Means
Of Every Lover of
The Sea!
Adventure! Glorious trips down the winding rivers, across blue, sparkling bays and sounds. Nights filled with the romance of the sea and you—master of your ship.
A true ship of the sea is this stalwart cruiser of twenty-six feet, which now brings true these dreams you've had of the sea. Compact yet roomy and comfortable. Built of the finest materials by men whose life has been boats and sea. Up to the minute, completely equipped for every comfort, there are berths, galley, toilet and lots of real privacy.
A cabin cruiser, mahogany over white oak framing with bronze fastenings throughout—at a price that is as amazing as the boat itself. Direct from the builder to you—that's why we can offer this high quality boat at the following price.
The
OWENS 26
Cabin Cruiser
Priced at only $1860
OWENS BOATS
ANNAPOLIS
MARYLAND

THE PELORUS AND ITS USE

(*Continued from page* 58)

in the pelorus position will ensure its being set in its proper place when it is used.

A pencil point is inserted in the hole in the north point of the compass card and the card rotated until it corresponds with the steering compass card. Suppose, for example, the steering compass showed a SW course. If there was no deviation on this course the pelorus compass card would be set as shown in Fig. 5, but if there is deviatio on this course, then the pelorus compass card must be set accordingly.

In other words, if the deviation were one point westerly, then the pelorus card would be set to read SW by W in order to reduce the bearing taken to its magnetic value as compared to the chart.

Bearings taken of the points B and C (Fig. 8) are then drawn on the chart and the intersecting point A marks the position of the boat.

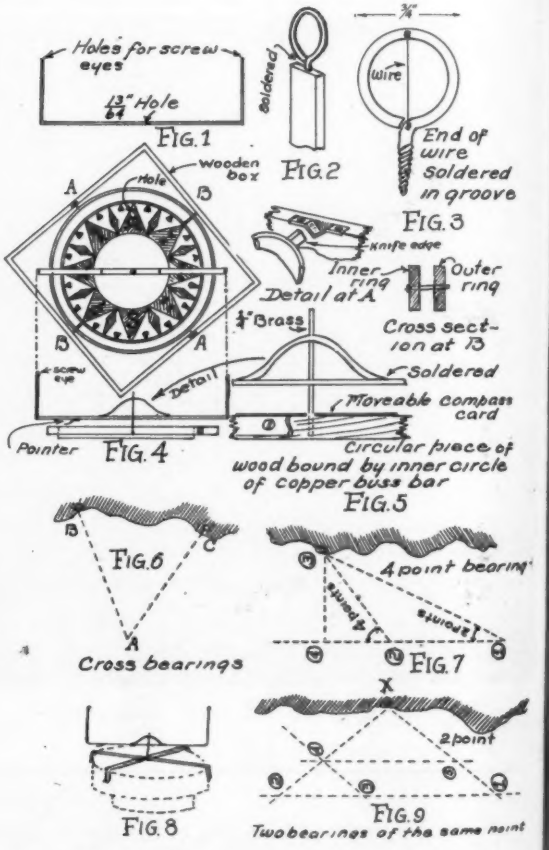


Diagram of the pelorus suggested by J. E. M. with illustrations of its use

If a bearing of the object at 3, (Fig. 7) is two points as sighted from the point 1 and the course is maintained until the same object shows four points (2), then the distance from 2 to 3 is the same as the distance run—1 to 2. This distance can be ascertained either by a taff rail log or by knowing the speed of one's boat under varying conditions. By multiplying the distance run by .7, the distance 2 to 4 and 4 to 3 can be computed while the boat is at 2.

To reduce to an example, if the distance 1 to 2 is 6 miles, the distance 2 to 4 and 4 to 3 is 4.2 miles, the distance the boat will be from the point 3 when it is abeam.

If a bearing is taken of the object X (Fig. 9) when the boat is at the point designated by 1 and again when the boat is at 2, these can be laid off on the chart. It is immaterial where the points 1 and 2 are placed on the chart as long as they are located on their respective bearings, but it is essential that the line 1 to 2 is the course steered.

Suppose in the interval between the taking of the bearings the boat has traveled 4 miles. Step this distance off on the

(*Continued on page* 104)

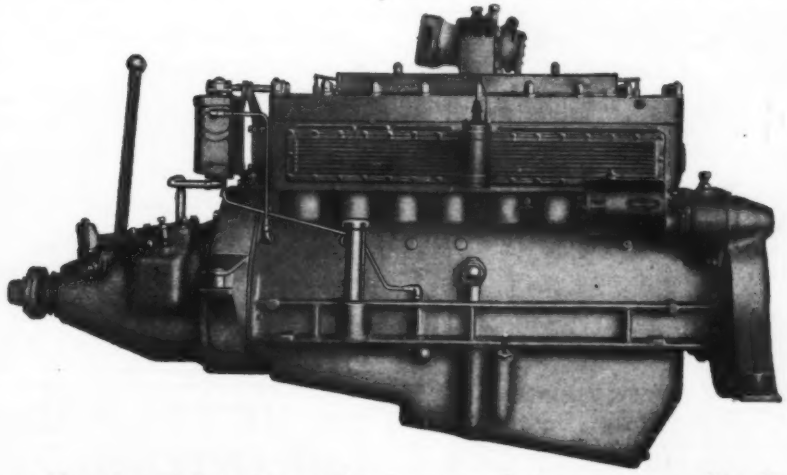
Advertising index will be found on 3rd last page.

ANNOUNCING

THE NEW

CHRYSLER MAJESTIC MARINE ENGINE

8-Cylinder, 3½" bore by 5" stroke—130-150 horsepower



THE new Chrysler Majestic eight-cylinder engine has been created to meet the urgent demand of boat owners, designers and builders for a Chrysler Marine Engine in the 130-150 horsepower class.

In the new Chrysler Majestic will be found all the unique and desirable features that are responsible for the success of Chrysler six-cylinder marine engines—plus the added power and smoothness of operation that are embodied in an Eight.

The new Chrysler Majestic also may be had with built-in 2-to-1 reduction gear for use in boats where slower propeller speeds are desirable.

MARINE ENGINE DIVISION, CHRYSLER CORPORATION, DETROIT, MICHIGAN

DISTRIBUTORS

SEATTLE MARINE SUPPLY CO.
Seattle, Washington

YACHT & MOTOR SALES CORPORATION
Wilmington, California

LECHENGER MARINE COMPANY
Houston Texas

NOYES MARINE SALES
Boston, Mass.

MARINE EQUIPMENT & SUPPLY COMPANY, INC.
Philadelphia, Pa.

J. H. HUTCHINSON
Alexandria Bay, N. Y.

SERVICE STATIONS

CONSOLIDATED SHIPBUILDING CORPORATION
New York City

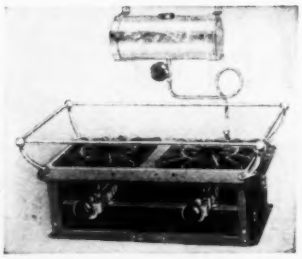
WHEELER SHIPYARD
Brooklyn, N. Y.

BREWSTER MARINE SALES
Bay Shore, L. I., N. Y.

Chrysler MARINE ENGINES

CHRYSLER MOTORS PRODUCT

"Wilco" Alcohol Stove
in Dark Blue Baked Enamel



Standard Equipment on A.C.F., Matthews, Chris-Craft, Richardson and other fine boats.

Height, overall 10¼ inches
Length, overall 20½ inches
Width, overall 15¾ inches

PRICE, $28.00

Also furnished with three top burners, price $40.00.

Combination Coverall and Life Preserver Suit

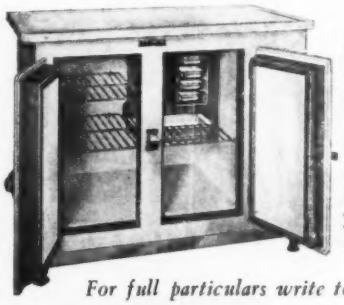
Made of durable herringbone drill (not waterproof) in one-piece style, in white color only. Entire suit is triple needle stitched throughout and bar-tacked at important seams. Hookless Fastener all the way down front. The life-preserver feature is accomplished by means of two compartments on each side in front and one large compartment in back, holding in all eight tubes of rubber filled with finest quality Kapok. These rubber tubes are vulcanized and easily removed for laundering purposes. The compartments are so arranged as to allow plenty of freedom of movement. Kapok cannot come in contact with water. A double purpose garment, as this suit eliminates the use of any other life preserver.

PRICE $15.00

Come in and let us fit you to a UTE, or send us your check and measurements and we will ship you a UTE postpaid. Sizes: Small, Medium, and Large. Extra Large 10% extra.

Live Dealers Should Write for WILLIS' DISCOUNTS

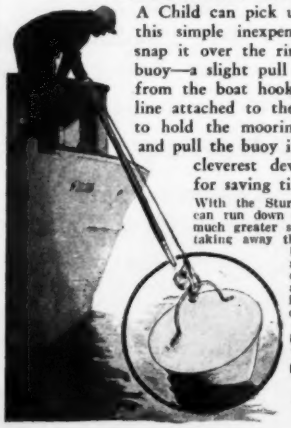
ELECTROLUX—THE AUTOMATIC REFRIGERATOR FOR YOUR BOAT



For operation with "Wilco" Blu-Flame or any other approved bottled gas system. Thoroughly practical, economical, and absolutely safe and fool-proof. No moving parts. Noiseless. Solves the yachtsman's ice problem and saves trouble and money.

For full particulars write to E. J. Willis Co.

STURGES "Jiffy" MOORING SNAP



A Child can pick up a mooring with this simple inexpensive device. Just snap it over the ring in the mooring buoy—a slight pull separates the snap from the boat hook pole, and a light line attached to the snap enables you to hold the mooring, check headway and pull the buoy inboard—one of the cleverest devices ever invented for saving time and trouble.

With the Sturges "Jiffy" Snap you can run down on your mooring with much greater safety than ever before, taking away the previous worries of having to consider Wind and Tide. On sail-boats, one-man motor boats and in bad weather it is worth many times its cost.

Price in unpolished Bronze.....$4.90
Polished Bronze.. 6.50

Nickel Plated and Chromium Plated can also be furnished.

The BETTER Boats Have BRANFORD Outboard Equipment

Improved Short Type Runabout Steerer LIGHT, STRONG, ATTRACTIVE and EASY TO INSTALL

Brass spider, 16 in. mahogany rim. Extra long Control Lever. Button type Switch in center. Bracket may be installed without disassembling wheel. Spiral Drum drilled for easy fitting of tiller rope. Control consists of throttle lever, ignition switch and 17 ft. of special copper control casing and Bowden type control wire.

PRICE, with control, complete $22.00
PRICE, without control 12.00

Advertising index will be found on 3rd last page.

KAPO Safety Coat

Made especially for the motor boat trade and wherever a life preserver is required that will fit snugly to the body, permitting a coat to be worn over it. Made in four sizes; cover is khaki, strongly sewed and well finished. Filling is kapok, a silky downy vegetable fibre of exceptional life and resiliency, absolutely non-absorbent and its buoyance is 25 to 1 or six times greater than cork.

Size Nos.	Chest, Inches	Price
1	24 to 30	$6.00
2	32 to 36	6.50
3	38 to 42	7.00
4	44 to 48	8.00

MAKE YOUR MOTOR BOAT QUIET
USE A

MAXIM SILENCER

Made in all sizes from 1½" up

DID YOU NOTE

that almost all the fine cruisers at the Show were equipped with

SANDS

PLUMBING FIXTURES

Their recognized superiority enhances the value of any boat.

A complete line of Sands Water Closets, Lavatories, Baths, Showers, Pumps, Valves and Fittings may be inspected at all times at the Willis Salesrooms.

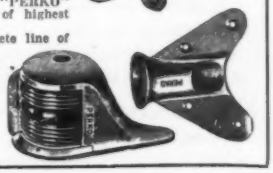
PERKO PRODUCTS

Improved Outboard Equipment

Numerous patented improvements make the PERKO Line particularly desirable. Every outboard owner will appreciate their convenient features.

And the name of "PERKO" is your guaranty of highest quality.

We carry a complete line of Outboard and other Perko Marine Lights and Equipment Specialties.



Catalog on request.

Has no equal in bottom paints. One Trial Will Convince.

Kirby Paints

They are the lowest priced reliable paints obtainable.

Copper Bottom Paints, Flat Yacht White, Gloss Warship Gray, Gloss Deck Paints, and Engine Enamel always in stock.

Famous with Three Generations of Yachtsmen

GUARD AGAINST
FIRES AND EXPLOSIONS

by installing the

"WILCO"

Ventilating System

Expels dangerous, nauseating gasolene vapor from engine room and bilge, and keeps the galley and cabins cool and sweet.

Requires little current, and can be mounted through deck, or cabin top.

Write for descriptive circular

...e and Sold by

...LCO

...EADQUARTERS

...ORK · 67 READE STREET

Established 1888

Where good seamen get together you'll find this horn

AT YACHT CLUBS, at boat anchorages, at sea . . . there's one horn more popular than any other two added together. It is the Marine Model of the Robert Bosch Vibro-Balanced Horn. And, man, it's as sweet a horn as ever shipped before the mast.

It's at home on any heaving deck. It's always ready to sing out its lusty warning . . . in spite of water, wind, heavy weather or salt air. It requires no lubrication. It requires no adjustment. And its tone has a marine quality that goes far in a fog.

The Robert Bosch Vibro-Balanced Horn is now furnished in chromium plated finish as well as in polished brass or black enamel . . . to match the fittings of your boat. Your dealer probably has a Robert Bosch Vibro-Balanced Horn in stock—or can get it for you in a jiffy.

* * *

Have you seen the new catalog of Robert Bosch Products for motor boats? We will gladly send you one on request.

All Robert Bosch Products bear the full name "ROBERT BOSCH" and this trade mark of Robert Bosch A.G. . . . . .

ROBERT BOSCH MAGNETO CO., INC.
3603C Queens Blvd., Long Island City, New York

Robert Bosch
Vibro-Balanced
HORNS

THE PELORUS AND ITS USE

(*Continued from page* 100)

chart beginning at the point 1 and using the scale of miles on the chart as a measure. If the traveled distance places the boat at the point 3, then mark the point and through it draw a line parallel to the line of the first bearing taken.

Where this line intersects the line of the second bearing mark the spot where the boat was when the second bearing was taken. By running a line parallel to 1 to 2 and through the point 4, the point where it intersects the line of the first bearing marks the spot where the first bearing was taken. This last line is in effect the actual course which the boat ran in terms of its correct location on the chart.

J. E. M., Norwich, Conn.

THE CARE OF BATTERIES

(*Continued from page* 55)

for battery compartments and nearby floors and woodwork. Occasional treatments with linseed oil are also advisable. Sprinkling sand under the battery support or placing a rather deep lead pan under the same prevents internal leaks or spillage from damaging woodwork or adjoining equipment or furniture.

Cell caps that leak electrolyte despite tight screwing down may be fitted with rubber or fiber washers. Household ammonia, applied with a soft brush to battery top and terminals, removes all dirt and corrosion. When dry, a light coat of vaseline should be given these parts. No tools, spare parts, or equipment of any kind should be carried in or upon the battery box or its brackets.

Battery makers and dealers have a long list of do's and dont's for battery care and maintenance. There is nothing very intricate or difficult about them. Confidentially, many a battery has lived to a ripe, old age on clear city water instead of distilled. At least two makers have prepared charts showing the particular models recommended for various marine requirements.

Hydrometers and ammeters show what is in and going into the battery; but whirring starters, high-speed distributors, and numerous lights and accessories indicate heavy drains upon it.

The motor boatman must choose between a live storage battery and a dead storage boat. A battery properly housed and cared for renders dependable service for three or four years, while one that is neglected or abused may be ruined in three or four weeks.

D. McC., Cleveland, O.

A NEAT BATTERY BOX

A STORAGE battery compartment that has given good service for years and which is so simple to construct that no illustrations are needed for the average boatman to build one from this description.

The compartment itself is located on the inside of the bulkhead that opens onto the cockpit, but any locker or other wall with one side exposed to the open cockpit will do nicely.

The box itself is strongly made and supported, for a heavy battery is quite a load to keep in place in rough waters. Common white pine is used for the box, with all fastenings of corners, etc., made with brass screws set in marine glue. No fastenings are exposed on the inside of the box. Two steel straps bent around the three sides and fastened to the bulkhead hold the other side tightly against the bulkhead without actually fastening the box to the partition. Loosening these straps will allow removal of the box very easily.

The box is two inches larger all around than the battery and the top is three inches above the binding posts. The inside of the box is lined with thin sheet lead, one thirty-second inch thick, with the joints burned together and the top edges bent over the top of the box and fastened on the outside with nails. There are no fastenings on the inside of the box through this lead lining.

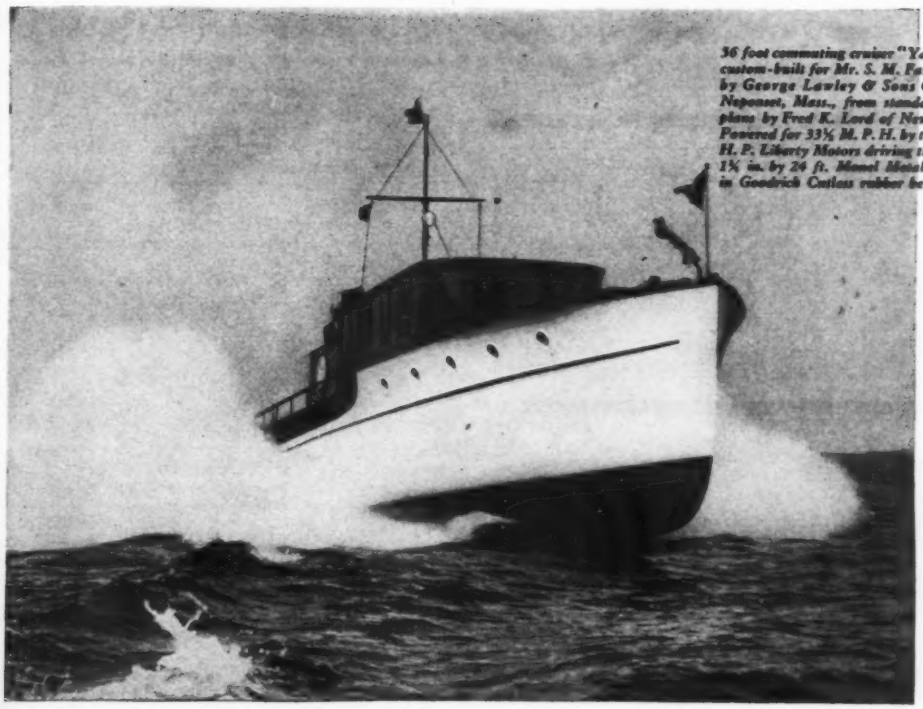
The top of the box is a flat board, covered on the bottom with sheet lead extending up the outer edges and tacked on the outside. If the top is so large that the sheet lead would sag down too much, tack it up at a few places with copper tacks and cover the heads of the tacks with solder.

The lid is held down with four screws, not with heads but with wings so that they can be easily removed, yet hold the lid tightly against accidental opening. The box is painted to match the compartment and presents a neat appearance. The two lead-in wires are run through the side of the box near the top edge, using standard porcelain tubes for each wire to properly insulate them from the lead lining. The wires are taped so that they fit tightly in the tubes.

When this box is properly in place, a row of half inch holes are drilled through the side of the box resting against the bulk-

(*Continued on page* 106)

Advertising index will be found on 3rd last page.



56 foot commuting cruiser "Yankee", custom-built for Mr. S. M. Fairchild, by George Lawley & Sons Corp., Neponset, Mass., from standardized plans by Fred K. Lord of New York. Powered for 33½ M. P. H. by two 400 H. P. Liberty Motors driving through 1¾ in. by 24 ft. Monel Metal shafts in Goodrich Cutless rubber bearings.

Monel Metal Shafts

selected for LAWLEY-LORD

56 *foot Commuter Cruisers*

Monel Metal Shafts increase the life of babbit or bearing bronze and are especially recommended with Goodrich Cutless rubber bearings.

ANY BOAT designed by Mr. Fred K. Lord and built by George Lawley & Sons Corp. is certain to represent the very highest standard of marine construction...in design, workmanship and materials employed.

Therefore, it is significant that Monel Metal shafts were specified for the 56 foot commuter-cruisers now being built by Lawley, designed by Lord, and powered with 400 H. P. Liberty motors.

In these and a fleet of boats of many types...cruisers, speed boats, standardized run-abouts, tugs, lighters, etc....Monel Metal shafts have been adopted because they provide the best possible assurance of dependable service. They are rigid, strong as steel, without whip or lash. Monel Metal will not rust and it resists the corrosive attack of salt water.

Furthermore, and of the utmost importance, Monel Metal shafts have a smooth, high polished surface which is practically frictionless. The result is a decided reduction in bearing and packing wear...a saving in trouble, time and money.

Monel Metal shafts are furnished from stock in customary sizes, with close tolerances, straight, true, ready for instant installation. Ask your boat builder, or yard machinist about Monel Metal shafts. At the same time write for illustrated booklet, "Monel Metal Shafts and Brightwork."

THE same properties that make Monel Metal so valuable for propeller shafts also make it the ideal metal for many other marine parts and fittings.

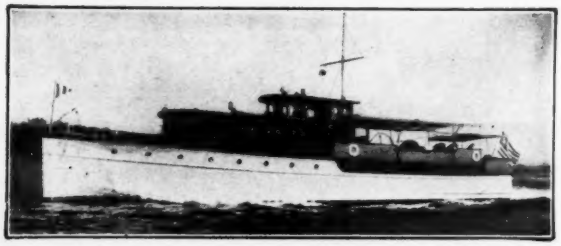
Monel Metal tiller rope is now widely used by leading boat builders because of its unfailing strength, its corrosion-resistance, and its remarkable dependability under the severe conditions of tiller rope service.

If you want information about Monel Metal for any marine use, write to The International Nickel Company, Inc.

MONEL METAL

Monel Metal is a technically controlled Nickel-Copper alloy of high Nickel content. It is mined, smelted, refined, rolled and marketed solely by The International Nickel Company. The name "Monel Metal" is a registered trade mark.

THE INTERNATIONAL NICKEL COMPANY, INC., 67 WALL STREET, NEW YORK, N. Y.



Our Magnificent

77-foot

STANDARDIZED CRUISER

built for YOU

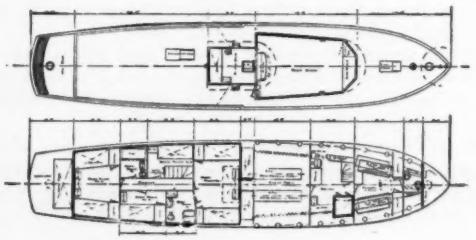
This beautiful Cruiser, pictured above, was built to the original owner's individual specifications. It created such a great impression throughout the yachting world that we decided to standardize the model. However, it is still essentially a custom-built boat because it is constructed in accordance with the highest class practice in yacht designing and is equipped to meet each customer's personal desires.

This Cruiser is of rugged, sturdy construction; double-planked hull, decks of teak, with houses of mahogany. It is one-hundred per cent seaworthy, is dependable under all weather conditions, and is unusually beautiful in line. It is powered with either **Gasoline** or **Diesel** Motor.

The owner's quarters consist of two double and two single staterooms, with two bathrooms. Combination dining and living room in the **large deck house.** Pilot house, with Captain's stateroom adjoining. Galley, running full width of boat, with quarters forward for crew of four. Frigidaire ice machine. Decatur pressure water system. 110-volt electric generator, bilge pump and other up-to-the-minute appointments. Equipped with 15-foot tender and 12-foot dinghy. Electric anchor windlass.

We have two of these Cruisers ready for Spring delivery. Order should be placed **now** to avoid delay. Write for complete details, interior views and prices.

***For over thirty years** we have been constructing to individual specifications some of the finest yachts seen in American waters. Our Custom-built Department is ready at all times to submit plans and specifications covering your individual ideas.*



The New York

Yacht, Launch & Engine Co.

Morris Heights, New York City

A NEAT BATTERY BOX

(*Continued from page* 104)

head and about one inch from the top of the box. These holes are drilled to slope downwards towards the outside at an angle of 30 degrees. At this angle no water will enter, yet the gas will escape. The two end holes are fitted with pieces of lead pipe extending downwards to about two inches from the bottom of the box and these help to circulate the air.

The bottom of the box is filled with about one inch depth of common sand. Upon this is set one of the heavy glass photographers' developing trays about an inch larger all around than the battery. These come in many sizes and are very strong. In this tray are set strips of thick rubber (quarter inch sheet packing will do) about one inch wide and three inch centers upon which the battery rests. This leaves a clear space under the battery for air circulation. The sand cushions the weight and the tray holds any leakage while the lead lining prevents decay of the box from splashing or dampness of acid fumes.

Temporarily set the battery in the box before putting the box in place, then place strips of wood vertically between the battery and the lead sides of the box. They are about one by two inches and should clear the battery case by only enough to make a snug slip fit. Two such strips on each side, and one on each end are enough. Fasten them to the box with screws from the outside so that no metal is exposed inside. It is hardly worth while painting these strips as they will last a number of years. White oak strips have lasted four years very well. They are easily replaceable and their corrosion will in no wise hurt the box. They should extend down to about one-half inch above the top of the glass tray.

The purpose of these strips is obvious. They hold the battery in place no matter how much the boat rolls.

Any leakage will collect in the glass tray and can be sucked up with the usual battery tester. This tester is kept in the box for convenience. Serious leakage however should be repaired by removing the battery, although if the lead lining is made liquid tight, no damage will be done.

L. R. K., Philadelphia, Pa.

FIVE NEW FAST BOATS

(*Continued from page* 47)

and Sportship Senior will be from 28 to 30 miles an hour with the comfort and dryness of the most expensive runabout. Indeed, these two Ludington boats duplicate many features of the most expensive, speedy runabouts that have attained such popularity, and it is a safe bet that the Sportship and Sportship Senior will become popular as pleasure craft at hundreds of resorts and as tenders for yachts.

Those who enjoy the thrill of outboard racing can look forward to a season of speed with many a thrill, for Ludington has constructed three new models showing improvements on its championship winners of the past few seasons. Here, too, Dunnell, outstanding racer in the East, is the designer and has introduced many new features based on his experience as designer and driver of this type of racing craft. One innovation is a new side construction which cushions the turns and allows drivers to take the hairpin turns with throttle wide open. The new models are the Ludington Lightning 11½ feet for A Class, Division 1, and B and C Class Division 2—the Ludington Rocket 13½ feet, for B and C Class Division 1, 2, D Class Division 3—and the Ludington Flash 14 feet, for D and E Class Division 1, 2 or 3. All three racing models are designed and built under the new 1930 weight regulations of the N. O. A. and A. P. B. A.

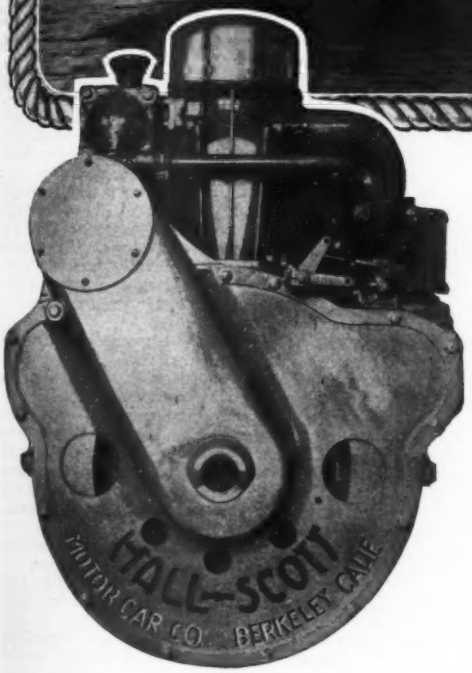
BUSY RACING PROGRAMS

Practically all of the various branches of the National Outboard Association have completed their calendars for race events to be held during the coming year. Dates recently announced by A. L. Bobrick, include May 3—Alamitos Bay, Long Beach, Cal.—intercollegiate regatta. July 4—Alamitos Bay, Long Beach, Cal. August 10—Balboa, Cal. September 9—Lake Merritt, Oakland, Cal. September 27-28—location not decided. November 29—Salton Sea, Cal. December 6-7—Lake Elsinore, Cal. This list of California events will be supplemented later.

Regattas which have been scheduled for Florida include: March 7-8—Mount Dora, Fla. March 14-15—Daytona Beach, Fla. March 23-24—Palm Beach, Fla.

Thirty-two regattas have been scheduled for Southern New Jersey for the coming year, most of them outboard race events. The high spot of the Jersey season will be the Gold Cup regatta at Red Bank.

Advertising index will be found on 3rd last page.



HALL-SCOTT
MARINE ENGINES

Quality Boats Are Still Being Bought

The Robinson Seagull is outstanding—a gem of sturdy craftsmanship in a day when quantity production is our industrial god.

People buy the Seagulls because they like the extra satisfaction which is placed at their disposal by the skill and care with which these boats are planned and built.

Pride of Ownership? CERTAINLY

Their experience has shown them that they can enjoy the ownership of these more satisfying craft at a lower cost per year than would be possible with boats of lesser merit.

For the same reasons, these same experienced purchasers, with three standard power equipments to choose from, prefer to pay the slight difference in first cost and have Hall-Scott power—in keeping with the ideals of their craft.

See the engine at the nearest display room, or send for complete information.

HALL-SCOTT MOTOR CAR COMPANY

DIVISION OF AMERICAN CAR AND FOUNDRY MOTORS CO.

Factory and General Offices, 2850 Seventh Street, Berkeley, Calif.

210 East Tenth Street
LOS ANGELES, CALIFORNIA

R. V. Morris & Co.
836 Columbia Street
SAN DIEGO, CALIFORNIA

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PORTLAND, OREGON

907 Western Avenue
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217 West Fifty-Seventh Street
NEW YORK CITY

500 East Jefferson
DETROIT, MICHIGAN

"SKIPPER" SAYS:

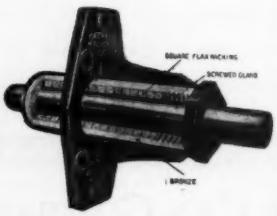
"Some of these amateurs will fall for faddy bearings. They look good on paper, but I want my bearings to BE good. I don't crave to be adrift without power—fair weather or foul. I've used HATHAWAY BEARINGS for fifteen years and never had one let me down. Guess I'll stick to 'em the rest of my days."

YEARS of perfect performance, under the most exacting conditions, have built for Hathaway Flax Packed Bearings a reputation for unequalled dependability, efficiency and economy, among men whose experience has taught them to "hold fast to that that is good."

The first cost of Hathaway Bearings is a trifle more than that of ordinary bearings — but — first cost is last cost—in money, time, safety and worry. An hour or two every three to five years, —seventy-five cents to a dollar for material, is all the upkeep a Hathaway ever needs.

The Hathaway is the only bearing that can stand overheating without the slightest danger of damage to bearing or shaft.

Write for descriptive literature and prices. If your dealer does not handle Hathaway Bearings, we will ship to you direct.



The Hathaway
MACHINERY COMPANY
NEW BEDFORD, MASS.

COMPACT POWER UNITS

(*Continued from page 46*)

over the same amount. The result is that any bearing will fit any motor without hand labor and is truly interchangeable. In fact, the upper halves of the main bearings can be removed without taking down the crankshaft by simply forcing one-half out by forcing another half in its place.

The connecting rods are babbitt-lined directly to the steel forgings. The length of the rod between bearings or between centers is unusually long. No attempt has been made at this point for economy by adopting short-centered rods.

The valve tappet cluster assembly is made in three groups. They are designed for accessibility in service and can be very easily installed or removed.

Crankcase and cylinders are of chrome nickel alloy iron, the longest-wearing iron known today.

The combustion chamber of the cylinder head is a new, original and advanced design, employing high velocity of turbulence in the gases which results in improved combustion.

The Buda-M. A. N. Marine Diesel, exhibited at the Motor Boat Show, which represents the latest development in light weight high-speed full-Diesel engines for marine service, operates on four-stroke cycle with airless fuel injection. It is manufactured under license from the M. A. N. Company of Germany in whose shop Dr. Rudolph C. Diesel built his first Diesel engine over thirty years ago.

This engine possesses all the operating features of gasoline marine engines, requires practically the same space, but has the added advantage of simplicity of operation, exceptionally low fuel consumption per gallon of fuel, greater cruising range and reduction of fire hazard.

This is a valve-in-head design, each cylinder being fitted with two injection nozzles, one on each side of the cylinder head. This arrangement of nozzles gives simplicity of cylinder head construction and permits, without difficulty, the largest possible area for the intake valves. The nozzles are of the open type, having one single opening. They are interchangeable, and can be as easily removed and cleaned as spark plugs. Cleaning is required no oftener, because the fuel is carefully filtered before entering the fuel pump. Fuel having a Baume gravity of approximately 26 to 38 is recommended. The engine can be furnished with or without reduction gear.

The construction features consist of Ni-Chrome iron cylinder block with cylinder liners of the same material. The cylinder heads are removable type of Ni-Chrome iron, cast in pairs. The valve mechanism is entirely enclosed by aluminum cylinder head covers. The crankshaft is of large diameter on seven main bearings. The connecting rods are drop forged, heat treated and rifle drilled for lubrication to piston pin bearings. All rods are carefully balanced in sets. Reverse gear is Joes planetary type, especially built for diesel engines. It is lubricated from force feed oiling system of engine through hollow crankshaft. The usual standard accessories are furnished with Buda Diesels. This job has a 6½ inch bore by 8¾ inch stroke and develops 173 h.p. at 800 r.p.m. and 180 h.p. at 1000 r.p.m.

The larger six-cylinder engines in the straight gasoline type without reduction gear are made in four models—BM-386, BM-411, GM-572, GM-638.

The first two models in this line have 2½-inch crankshaft, connecting rods of Chrome Vanadium steel, Paragon reverse gear, oil cooler, storage battery, generator and starting motor equipment. The latter two have practically the same specifications with 3-inch crankshaft.

The power range on these four models at 1600 r.p.m. is from 68 to 114 h.p. with greater development at higher speeds.

The Buda reduction gear engines are furnished in four models —BM-386-R, BM-411-R, GM-572-R, GM-638-R.

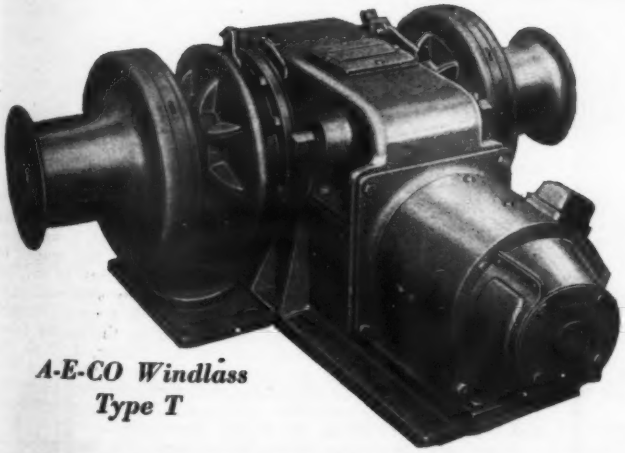
The reduction gear engines have internal reduction gear built into the engine. It is a Morse type, and has a ratio of 2½ to 1. It is of very rugged construction and the gear is water cooled to keep an even temperature in the oil at all times. It is extremely quiet and readily accessible as the entire gear can be detached from the reverse gear case very quickly. The BM-386-R has a bore of 4 inches and stroke of 5⅛ inches, RM-411-R 4⅛ x 5⅛, GM-572-R 4½ x 6, and GM-638-R 4¾ x 6. The first two models have 2½-inch crankshaft, while the latter two have 3-inch shaft.

The power range on the four reduction gear models at 1600 r.p.m. is from 68 to 114 h.p. with greater developments at higher speeds.

AN HONORARY COMMODORESS

Seventeen-year-old Loretta Turnbull of Monrovia, Cal., one of the country's foremost women drivers, has been made Honorary Commodore of the Havana, Illinois, Boat Club. So far as is known she is the only woman commodore in the country and utranks her father, Vice Commodore Rupert Turnbull of the National Outboard Association.

Advertising index will be found on 3rd last page.



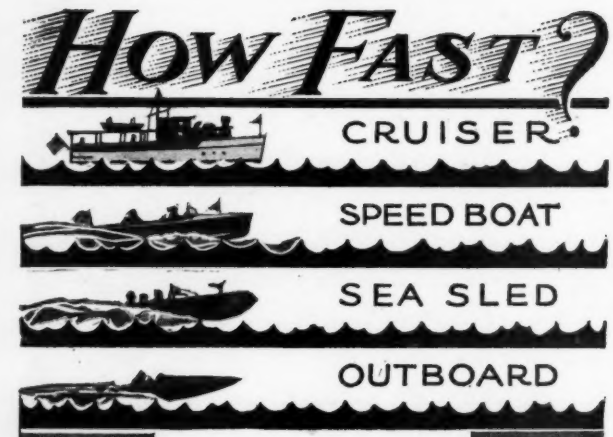
A-E-CO Windlass
Type T

THIS new A-E-CO windlass and two A-E-CO vertical sail hoists were selected as part of the equipment for Arthur Crisp's handsome yacht, *Queen Tyi*, designed by John Alden. Other new Alden boats on which the same equipment is used include the *Varuna*, *Bimesa* and *Sartatia*.

Write for new catalogue

AMERICAN ENGINEERING CO.
2419 Aramingo Avenue Philadelphia, Pa.

AMERICAN ENGINEERING



KNOW your speed always. It's satisfying, safe,—and it's essential if you expect to keep your boat at her best . . . These new speedometers tell you at a glance just how fast you're going through the water and, if you wish it, your trip mileage and total mileage as well. Once you've used one, you'll never be without it, any more than you'd run a car without a speedometer . . . It's a great help in navigating by chart and compass—a life saver in a fog—and a constant check on your engine . . . These fully tested, dependable gauges are rendering valuable service on large and small boats of all types from cruisers to outboards . . . Passage through the water creates the pressure which is translated accurately into M.P.H. on the dial. There is no connection with motor power, nor towage of apparatus.

NATIONAL MARINE SPEEDOMETER

Outboard Model $18.50 each.

Models A, B, C & D for speeds up to 15, 25, 35, 60 M.P.H. $30.00 each.

NATIONAL LOG

Models H or J for 35 or 60 M.P.H. $150.00 each.

Ask your dealer and if he has none on hand, write us and give us his name.

THE NATIONAL LOCK WASHER COMPANY

40 Hermon Street - - Newark, New Jersey

GEORGE H. TOWNSEND

(*Continued from page 23*)

"Cards?" we ventured.

There came a thundering "No!"

Then this lover of boats continued, "I'm very, very fond of sailing. I have sailed in the Adirondacks, and I have a schooner here, but Mrs. Townsend doesn't enjoy it."

His is a family devoted to motor boating.

For six years Mr. Townsend has been among those who commute from Horse Island, Greenwich, Connecticut, to New York. In his own snappy phrase, he can "roll out of bed on to a boat."

Mrs. Townsend has a Chris-Craft with which she won second place in the Gold Cup race in 1927.

"My wife races in all the local races," continued the speaker, "My daughter and four kids are in the local races."

Until the ice forms in the East River Mr. Townsend commutes from his home at Horse Island. This ride takes an hour and twenty minutes.

Those who know the craft in the East River have seen Sazarac, Mr. Townsend's new commuter. The old boat he used for his daily trips was fifty-four feet long; the new boat is seventy-two. In the terms of its owner, it is a conservative commuter, with 700 h.p. in Winton engines; but it has unusual features.

The points that are regarded by the owner as important are the unusual windshield and the deckhouse. "The windshield," Mr. Townsend explained, "is somewhat novel, having two angles so that when driving in light rain or fog, by standing on a platform the Captain is able to look over the top of the windshield without getting any draught or rain in his eyes.

"One other point, of which I am particularly proud is my deck house, which is just about the equivalent of being out on deck. For some strange reason most boat builders use large mahogany partitions and small windows. By the use of metal rods within the partitions I have cut these down so that they are little more than window guides, and by the use of materially thicker glass have secured very large windows. In addition to this I used roller window screens, which means that we have a clear view out of the deckhouse without having to look through wire screening all the time. I realize that roller screens have their weaknesses when a boathook is pushed against them, but after a season's use I can say I would prefer to replace an occasional roller screen than to be obliged to look through a veil at all times, and so many people have commented favorably on my deckhouse that I would like to have this point brought out."

Besides the windshield and deckhouse, Mr. Townsend referred to other features that had been worked out satisfactorily.

"The matter of deck control on a boat of this size has been somewhat criticised," he said, "but personally I feel that deck control is largely responsible for the fact that Sazarac has been out of water only once during the season for any repairs to the wheels. To my mind it is simply impossible to cut down and reverse quickly enough with engine room control for a boat commuting in the East River.

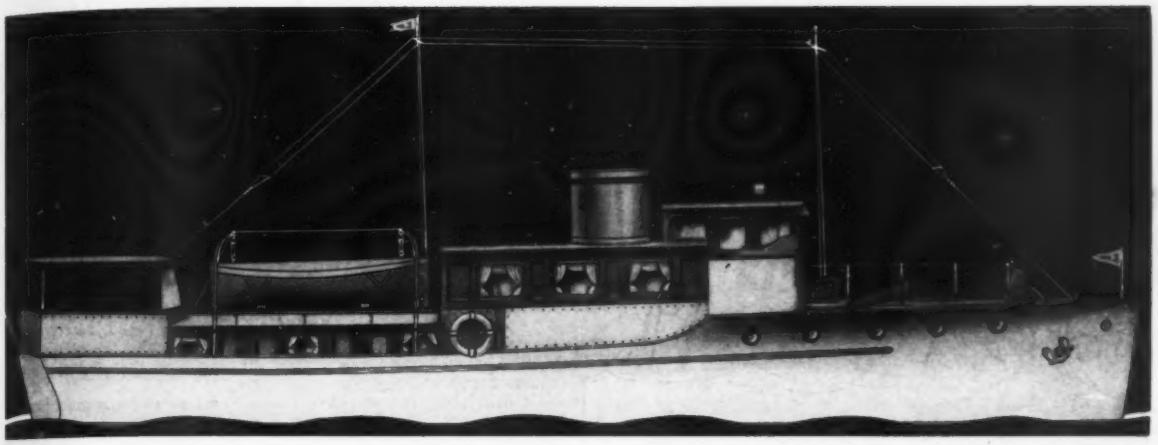
"Another point of considerable interest is the use of Prometal as a lining in the stern struts. I used this metal on my previous commuter for four years without changing the strut bearing, and on the new Sazarac I have had equal success. However, its wearing qualities are not the particular point that I wish to stress, but the fact that this metal can be fitted so closely that you do not get the usual rumble in the stern that I find in practically all commuters. I might add that I also used this in Greenwich Folly during her entire career. This is not an advertisement for this metal, but I do believe it is so far superior to anything else I have ever used that at least it should be mentioned if not by name at least by description. I understand it is a copper and graphite mixture.

"I find the tub in the new Sazarac a very nice addition and I cannot agree with naval architects that a shower is any sort of substitute for a real tub," said Mr. Townsend. "Captain Gillette who has been with me for so many years, paid particular attention to the wiring installation and the matter of venting and ventilating the engine room. Needless to say, all the gasoline tank fillers are arranged so that any spill will occur on deck, and the engine room is equipped with a power draught fan which will completely clear out the air in the engine room in three minutes time. In regard to the wiring, I think too little attention is usually paid to this in commuters, and frequently short circuits occur. In the new Sazarac all wires are carried in metal conduits with special switch plug boxes, which I believe increase the safety materially."

When this sportsman talks, he conveys the impression of having laid hold of his subject in firm, finished patterns—and having it all there, at his fingers tips, whenever he needs it.

After this discussion of the new boat, conversation took a more personal turn. (*Continued on page 112*)

Advertising index will be found on 3rd last page.

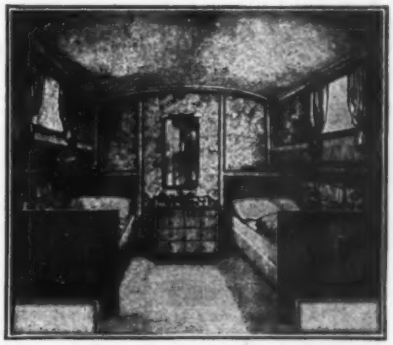


Diesel Powered, Steel Cruising Yachts

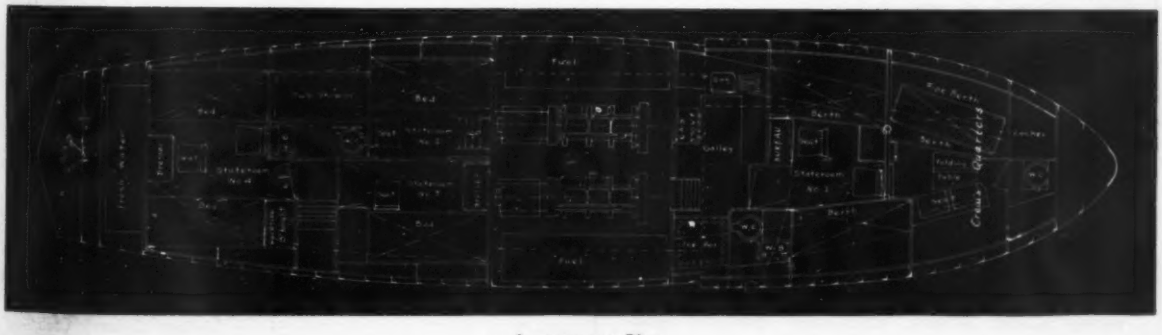
Designed after Hull Lines of S.S. Bremen

BUILT with a round bow. Hull of steel, built to Lloyd's exacting specifications. Bridge deck has steel bulwark. Deck insulated from heat of sun by two inches of cork and other heat-resisting materials. Entire engine room bulkheads and ceiling also insulated. Separately appointed wheel house . . . All exterior joiner work above the steel is teak wood. Deck planking 1½" Moulmein teak. Exterior hardware and all metal trimmings on interior, except on walnut doors, chromium plated. . . . No varnish, shellac, or oil is used, yet a glass-like and lasting surface has been obtained, which is unaffected by salt water and does not scratch easily. . . . The dining equipment provides service for twelve, and separate service for the crew. Selective inter-communicating telephone system, wireless sending and receiving set and broadcast receiver are standard equipment.

Any Size---Any Power



This State Room is furnished with full twin-size removable beds, not ordinary berths. Entire sleeping accommodations provide for ten people comfortably. Typical of the luxury throughout the craft.



Arrangement Plan

SPECIFICATIONS

Length,	56 feet
Beam,	13 feet
Draft,	4 feet
Hull,	Steel
Bulkheads,	Four
Power,	Two 70 H.P. M. A. N. W-6 V-1218 Diesel Engines, Electric Starting
Speed,	16 miles per hour
Fuel Capacity,	800 gallons
Water Capacity,	500 gallons
Auxiliary Plant,	Kohler 32 Volt D. C. Fully Automatic, Operating on Gas
Batteries,	400 Hour Capacity, 12 Volts for Engines and Nautical Lights

Nowhere in America can you duplicate this boat for less than our amazingly low price. . . . For advertising value, we have decided to build ten of these boats. We have built boats for some prominent American yachtsmen and many of the people of Europe, including Royalty. . . . We are prepared to build boats, to your individual requirements, up to 300 feet in length. Cruisers—House Boats—Sail Boats—Commuters. Plans, specifications and estimates promptly submitted

SHIPBUILDING & MOTOR EQUIPMENT, Ltd.

Builders of HOLL-CRAFT Watercraft De Luxe

143 Tremont Street

BOSTON MASSACHUSETTS

Let Us Send You This Book!

The new Yachtsman's Guide is the only complete, up-to-the-minute yachting encyclopedia published. It contains 500 pages crowded with just the sort of practical information every motor-boat man wants. A copy of this invaluable volume should be aboard every boat and in the library of every yachtsman's home—on hand for immediate reference at all times. The following list gives you merely a partial glimpse of the wealth of material this book contains. Read it—think how it would help you!

- All about engines—installation, ignition, vaporization and operation.
- Hundreds of helpful hints on outfitting and overhauling.
- More than 100 Motor Boatmen's Charts for the entire Atlantic Coast, Great Lakes and Canada.
- Marine Laws—Rules of the Road at Sea.
- What to do if the motor stops unexpectedly.
- Times of high and low water and direction and velocity of tides in all ports.
- Latitude and Longitude Tables, giving locations of over 1,000 points.
- All kinds of marine codes, flags, etc.
- Details of hundreds of cruise routes, description of ports and channels, marine signals, codes, flags, etc.
- Characteristics of lights, buoys, fog signals, etc.
- Numbering Law—How to obtain numbers for your boat.
- What to do in a storm—to prevent collisions.
- How to organize a yacht club—Constitutions and By-Laws and many other helpful features.

Send for Your Copy Today

"The Yachtsman's Guide" sells regularly for $1.50. Twelve issues of MoToR BoatinG would cost you $5.00 at single-copy prices. But by taking advantage of our special offer at once, you can "ave "The Yachtsman's Guide" and a whole year of MoToR BoatinG, for $3.50. (Two years' subscription including Yachtsman's Guide, $5.00.)

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GEORGE H. TOWNSEND

(*Continued from page* 110)

"If you went to Yale, you must have had money?"

"Not very much," was the reply.

There is simplicity and directness in Mr. Townsend's manner.

"My father, William K. Townsend, was a professor of law at Yale, and Judge of the United States Court of Appeals, the Ninth District."

George H. Townsend was born at New Haven, Connecticut. He entered Yale and graduated with the class of 1908. The son did not choose the profession of his father, partly, in his own words, because he didn't have the patience. Then he said, "I was mad about engines and mechanical things."

So shortly after completing his academic course at Yale, he organized the Moto Meter Company, manufacturing the Boyce Moto Meter.

"I've had only this one job," said Mr. Townsend, referring to the work he had carried on for seventeen years.

"We started with the Boyce Moto Meter that went on the radiator cap.

"During the war we turned over most of our plant to manufacturing aeroplane equipment.

"Then the heat indicator started from the radiator cap to the dashboard.

"And then we acquired a competing company in Wisconsin employing about 2,000 people. That company made all the dashboard instruments and put them in a panel. They still control a large part of the panel board business, making oil gauges and gasoline tank gauges, and heat indicators."

It was this far-seeing president of the Moto Meter Company who anticipated the advantage of extending production into other lines rather than limiting it to automobiles, in this way creating bi-products. As an illustration, he took the aeroplane heat indicator and turned it to other purposes.

"We used the skill to go into industrial lines," he explained. "It was not so big as the automobile end, but it was a satisfactory end," he added.

Even a brief conversation reveals two qualities in this executive which have undoubtedly been priceless in his work with a great manufacturing company—imagination and enthusiasm.

His speech is colorful, shot through, as it is, with unusual comparisons and fresh, unhackneyed phrases, giving it unstudied charm.

His enthusiasm is genuine. He knows that to make others see a picture, he must paint it for them. And he can wield a magic brush.

"Are you a hard worker?" he was asked.

"Reasonably," he replied. When his love for sports was mentioned, "I do a good deal of work between times," he added. "I believe in letting the other person work for you and trusting him implicitly."

"What traits would you like your children to have?" Mr. Townsend was asked.

"Loyalty to friends is one of the biggest," he said, thoughtfully.

Then he believes one needs stubbornness, too, "a little bit," he said. "You've got to stick to a thing. That is the only hope of getting it over."

This man whose skillful hand has shaped one branch of the automobile business, attributes his own success to luck.

"Yeah, luck," he concluded, in his breezy phrase. "It's a very potent factor in business. I don't care who says to the contrary."

With a daughter making her debut this season and half a dozen children following on, one might anticipate the father's interest in social clubs. But at their mention, this sportsman looked a trifle bored.

"You don't want them all?" he asked.

But obligingly he began, "The New York Yacht Club, the Indian Harbor Club, the St. Regis Yacht Club, the University, the Yale, the Round Hill, the Sleepy Hollow Country Club,"—and then came an interruption.

January 21 Mr. and Mrs. Townsend with their eldest daughter are leaving for a real vacation, a trip around the world.

As to motor boats, "Each of my children has a Chris-Craft except the youngest," volunteered the father, with a smile. "We haven't picked one for him yet. He's three weeks old."

STAY-TITE PRODUCTS

The Sixth City Specialty & Mfg. Co. of Cleveland, Ohio, manufacture the well known Stay-Tite Products, comprising of Stay-Tite Marine Caulking Cement, Stay-Tite Waterproof Marine Glue and Stay-Tite Wood Filler; all three products have been tried and proven and are used by most of the leading boat manufacturers and carried in stock by leading boat supply houses and ship chandlers.

We would suggest you writing the above company for further particular on their Stay-Tite line.

Advertising index will be found on 3rd last page.

Willard PRT-8 storage battery used for starting service on the "Ara." Auxiliary power for the "Ara" also is provided by Willard batteries.

The "Ara," built by Herreshoff Manufacturing Co. Bristol, Rhode Island, for Wm. H. Vanderbilt.

Known battery value through *boat-builders' tests*

Willard quality is forced to measure up to exacting standards before Willard batteries are accepted for the original equipment of fine pleasure boats.

Marine engineers determine the most severe demands that may be made on a battery—then measure the battery's ability to satisfy them. They set high goals for dependability and long life, and will use only that battery which meets them.

Willards win their preference because Willard, too, sets high standards of quality that must be met by every battery that leaves the Willard factory, whether it is to be shipped to boat builders or to Willard dealers for resale to you. Every Willard battery is a known value.

STORAGE BATTERIES

Willard

CLEVELAND·OHIO

PHILIPPINE MAHOGANY

is standard for

GOOD BOAT CONSTRUCTION

as supplied by

BLACK & YATES

used by the leading manufacturers of High Grade

OUTBOARD MOTOR BOATS, RUNABOUTS and CRUISERS

for the following reasons:

1 BEAUTY—Quarter-sawn Philippine Mahogany is beautifully figured, making it most desirable for transoms and joiner work on all types of fine craft.

2 STRONG AND DURABLE—It can be resawn to 1/4" or 5/16" planking and still retain remarkable strength and durability.

3 VERY LIGHT WEIGHT—The light weight of Philippine Mahogany saves power and increases speed. Its durability and strength conserve material by allowing the use of thinner planking without sacrificing strength or safety.

4 EASY TO WORK—Black & Yates Philippine Mahogany is of a soft even texture and has excellent bending qualities.

5 MOST ECONOMICAL—For many reasons Philippine Mahogany is most economical. Its cost is considerably less than other mahoganies because it is imported DUTY FREE from the Philippine Islands, a United States possession. This saving is passed on to the consumer. Philippine Mahogany is equally suitable for joiner work as well as for planking. Off cuts from Philippine Mahogany planking (usually a total loss where other lumber is used) can be utilized with Philippine Mahogany for joiner work in other parts of the boat.

6 COMES IN GOOD WIDTHS AND LENGTHS which are so essential for planking, transoms and cabin sides. By using Philippine Mahogany for both planking and joiner work the boat builder can buy in larger quantities at lower prices by ordering in carload lots.

7 FREE FROM PIN WORM-HOLE DEFECTS which so often mar the finish of an otherwise perfect boat. For thin outboard planking it is absolutely essential to have all clear stock. We guarantee our Philippine Mahogany to be free from pin worm-holes.

Black & Yates Philippine Mahogany is imported direct from the Philippine Islands to our Brooklyn, N. Y., yard, where a stock of two million feet of clear, thoroughly air-dried and seasoned lumber is carried at all times for immediate shipment.

Let us quote on your requirements for 1930

BLACK & YATES, Inc.

Paramount Building

1501 Broadway **New York, N. Y.**

Telephone: Longacre 1345-6-7

THE THIRTY MILLION DOLLAR FLEET

COURTESY THE GONDOLIER

With the arrival of Vincent Astor's yacht Nourmahal, to be used by Alfred E. Smith and a group of friends on a Havana cruise, the private yachts either in Miami harbor or intending to make it their winter cruise base this season, represent a total in capital investment of more than $30,000,000. This figure is exclusive of the many yachts and cabin cruisers of less than one hundred feet.

The yacht Orion, valued at $2,500,000 and 334 feet long, is the largest and costliest millionaire's vessel to be seen in Miami this winter. Orion passed the Miami harbor mouth two months ago, bound for an extended cruise, but its owner, Julius Fortmann of New York, has notified dock officials he will visit Miami before the end of the season.

Next in size and valuation is Alder, the yacht of William Boyce Thompson of Yonkers, N. Y., valued at $2,125,000 and with a length of 294 feet. This yacht has already visited the harbor, and is using it as a cruising base.

Two vessels are listed in the $1,500,000 class. One of these, Vagabondia, W. K. Mellon's boat, already has visited the harbor and is being refitted here preparatory to another cruise. The second is Nourmahal, the yacht of Vincent Astor; length, 264 feet.

There are six listed at $1,000,000 valuation. These include Camargo, 240-foot yacht of Julius Fleischman of the Fleischman yeast interests, now at Miami Beach; Lyndonia, 210-foot yacht of Cyrus H. K. Curtis, president of the Curtis Publishing Co.; Migrant, 220-foot boat of Carl Tucker, New York City; Atlantic, 185 feet, owned by Gerard Blamberg, New York City; Ara, W. K. Vanderbilt's 195-foot yacht, now at his Miami Beach dock, and Viking, a 217-foot yacht of Harold H. Baker of Pittsburgh.

Eleven are listed in the $600,000 class. These include Aras, 147-foot yacht of Hugh J. Chisholm, New York City; Arcadia, 174-foot yacht of Mrs. Huntington Reed Hardwick of Brookline, Mass.; Caritas, 157 feet, owned by J. Percy Bartram, New York City; Caroline, 171 feet, Eldredge R. Johnson of Camden, N. J., former head of the Victor Talking Machine Co., owner; Margo, B. A. Massee, Palmolive Peet Soap Co. executive, owner; Seaborn, 182 feet; Lone Star, 172 feet, George Galt Bourne, New York City, owner; Margrove, 145 feet, E. W. Grove, St. Louis, owner; Mizpah, Commander E. F. McDonald, Chicago, owner; Sumar, David C. Whitney, Grosse Pointe Farms, Mich., owner, and Seaforth, 161 feet, owned by Hugh J. Matheson, Coconut Grove.

There are eight listed in the $500,000 class. These include Sialia, 206 feet, owned by Archie M. Andrews, Greenwich, Conn.; Hilda, formerly Vidor; Walucia III, formerly Miramichi, 172 feet, owned by Henry D. Walbridge of New York; Warrior, 248-foot yacht of Sidney Whelan of New York; Amida, 195-foot yacht of Ernest R. Behrend, Erie, Pa.; Olive K., 169 feet, owned by Charles F. Kettering, noted inventor of Dayton, Ohio; Pawnee, 160 feet, owned by Henry Payne Bingham, New York City, and Winchester, Russell A. Alger's 225-foot boat. Mr. Alger is of Grosse Pointe Farms, Mich. All but the Hilda, Sialia, Walucia, Warrior and Pawnee have already called here this season and are in the harbor now or on cruises.

Only one vessel is listed at $400,000. This is Caronia, 141-foot yacht of James E. Whitin of Whitinsville, Mass., which now is in the harbor.

In the $300,000 valuations are Almejean, Edgar P. Lawson, Southport, Conn.; Memory III, A. E. Fitkin, New York; Narodha; Surf, Floyd DeL. Brown; Conewago, Adrian C. Humphreys, New York City, and Queen Anne, Isaac E. Emerson, New York City.

Listed at $250,000 each are Hussar, Edward F. Hutton, New York City, and Utowana, Allison V. Armour, New York City; while in the $200,000 class are Cutty Sark, C. T. Jeffery, Philadelphia; Parthenia, J. W. Ford, New York; Vera, Harold Vanderbilt, and Josephine, Uzal; H. McCarter, New York; Sea King, owned by Baruch, New York; Thelma, owned by Guy Chapman, New York; Cynthia, Merrill B. Mills, New York; Shadow K., Carl G. Fisher, Miami Beach and Montauk Point, L. I. and Starling, Edward Morris, New York, are listed. Sea King, Cynthia and Starling are about due.

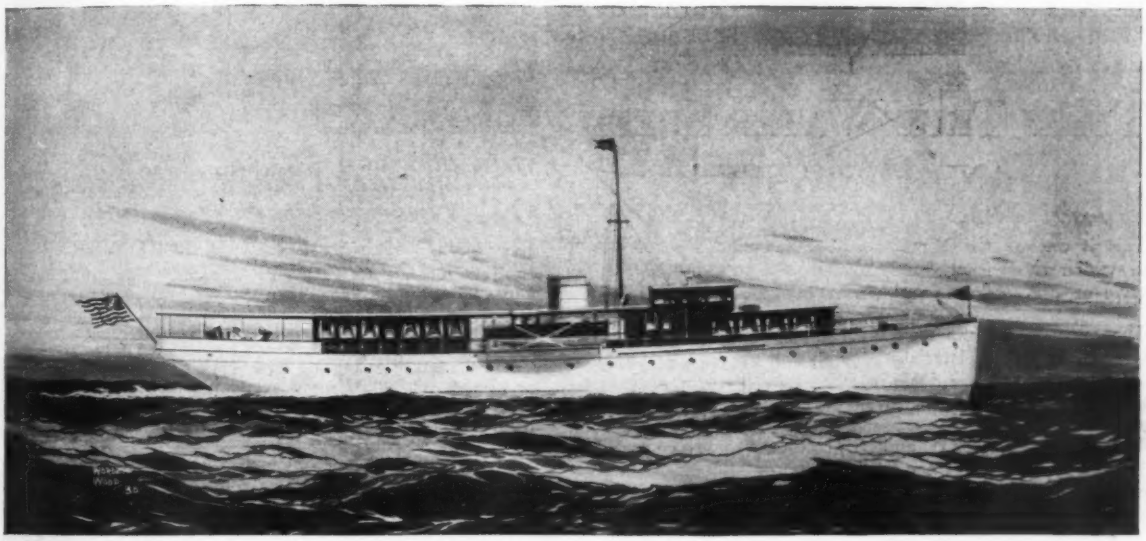
Other boats which have visited the harbor this season or are due here include Moby Dick, 120-foot yacht of Frederick S. Fish, South Bend, Ind., valued at about $200,000; Adroit, Barron Collier, 142 footer, $100,000; Poule d'Eau, 120 feet, $200,000; Frank H. Goodyear, Buffalo, N. Y., and Pomona, 127 feet, Paul O. Richmond, New York City, value unestimated.

In the $100,000 boats, Sea King of H. McCarter, Red Bank, N. J. Of these last named, Conewago, Queen Anne, Hussar, Utowana, Cutty Sark and Parthenia have yet to arrive. Vera now is at Palm Beach, but visited here.

Advertising index will be found on 3rd last page.

A Magnificent NEW Diesel Yacht

...designed and built by CONSOLIDATED



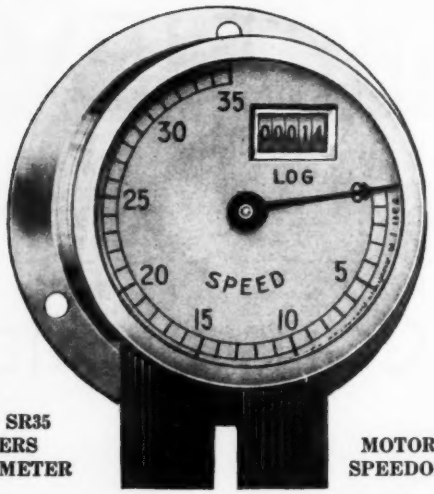
THE designing and building of this 135-ft. steel Diesel Yacht, for one of New York's most prominent men, is just another tribute to Consolidated's mastery in the production of fine yachts.

Consolidated's forty-five years of successful service carries with it an experience that is also at <u>your</u> command.

May we serve you? Preliminary Plans will be developed upon request.

CONSOLIDATED SHIPBUILDING CORPORATION

MORRIS HEIGHTS, NEW YORK



TYPE SR35
MASTERS
LOGOMETER

MOTORBOAT
SPEEDOMETER

TELLS TRUE WATER SPEED AND DISTANCE

This is one of the Masters Line of Marine Speedometers in which there is an instrument suited to every size and style of craft afloat from tiniest outboard to giant liner.

The type SS Logometer which indicates speed only and types SR which register distance as well as indicating speed are suited to all speed boats where the instrument is not to be located more than four feet above the water line.

Types SS15, SS20, SS35, and SS50 indicate to 15, 20, 35 and 50 land miles per hour, knots, or kilometers per hour (as set). Complete, ready to install—delivered in U. S. A. - - - - - - - - - $20

Types SR15, SR20, SR35, and SR50 indicate and register speed and distance in land miles, sea miles or kilometers (as set). Complete, ready to install—delivered in U. S. A. - - - - - - - - - $30

Type CR for cruisers and all large power boats may be installed with instrument at any elevation. Types CR15, CR25, and CR40 indicate and register speed and distance to 15, 25 and 40 land miles, sea miles or kilometers per hour (as set). Has no shafts. Cannot be fouled with dirt or debris. Easy to install. Delivered in U. S. A. - - - - - - - - - $100

Type NR for ocean liners and large yachts adapted to extended navigation, fully compensated for temperature and barometric changes. Prices on application.

All Logometers are in Chromium plated copper cases which may be mounted flush or upon instrument board. Registers show distance to one-tenth land mile, sea mile or kilometer (as set).

Prove your new boat
Improve your old boat **with a MASTERS LOGOMETER**

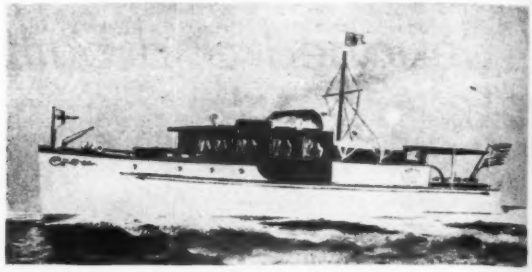
The Irvin W. Masters Company
122 Branford Place, Newark, New Jersey, U. S. A.
Tel. Mitchell 6829 Cable Address: Logometer Newark

YARD AND SHOP

(*Continued from page 62*)

DIESEL CRUISERS

The popularity of diesel engines for small cruisers has led Frederic P. Humphreys to specialize on this style of boat. His 50-foot cruiser called Challenger provides many unusual features. It has exceptional accommodations and is seaworthy to the utmost degree. A roomy forecastle is provided forward with a large galley running across the entire ship. Above is an enclosed deck-house which is so arranged that the helsman can be shut off or not as desired. Ample quarters for the owner and guests are at the stern and a suitable diesel engine provides a speed of from 14 to 15 m.p.h.



The handsome 54-foot Roxam, designed and built for Max Marston of Philadelphia by the N. Y. Yacht Launch and Engine Company

CHRIS-CRAFT LUMBER TOWER

Imagine yourself at sea upon a steamer. You are sailing in towards New York City. When you are still some one hundred and fifty miles out you take your glasses and look in towards where the land should be and, naturally, you cannot see anything. But let us suppose that the Chris-Craft lumber tower was there on the land just outside New York City. Looking through your glasses you would see this gigantic tower pushing up into the sky for twenty-five hundred feet. Because it was nearly a half mile high it would be visible to you off-shore for a hundred and fifty miles.

This tower could have been built out of lumber which Chris Smith & Sons Boat Company of Algonac, Michigan, have used during the past year. Three million board feet of lumber have been consumed in the making of all-mahogany motor boats. If this enormous amount of lumber was cut up in ten-foot pieces and stacked row on row in a ten-foot square such a tower would be the final result. This would be a solid wooden tower, a fitting monument to the world's largest builders of all mahogany motor boats.

But there is no such tower at the present time. Instead this vast amount of lumber may be seen on the oceans, lakes and rivers of the world.

FUEL PUMP THOROUGHLY TESTED

How a new departure in the automotive world must travel a long and hard road before it is accepted is related by J. C. Gray, equipment sales director of the AC Spark Plug company, who tells of the remarkable history of the fuel pump which engineers regard as one of the outstanding engineering developments of recent years.

"We started experimenting in 1921 on some new method of delivering the fuel from the gas tank to the carburetor," Mr. Gray said. "Every conceivable type of pump was tried.

"After we were satisfied with the preliminary performance of the present pump we put twelve of them on test in the laboratory. They operated at an engine speed of 4,000 r.p.m. for the equivalent of 100,000 car miles each. After passing this test, the pumps were installed on test cars and operated for tens of thousands of miles in all sorts of weather month after month. In all, five years of steady testing preceded the final production of the device.

"Starting from scratch in 1927, following the long period of development and research, the fuel pump was immediately adopted for equipment, and has been practically free from the mechanical troubles so frequently found in the early production of a new product. Since introduction of the AC fuel pump in 1927, thirty-seven manufacturers, including two abroad, have selected it, and today there are nearly 3,000,000 in use on cars, trucks, airplanes and motorboats.

"One of the main advantages of the pump is that it delivers a uniform supply of fuel to the carburetor at all speeds, assuring sustained power on hills."

(*Continued on page 120*)

Advertising index will be found on 3rd last page.

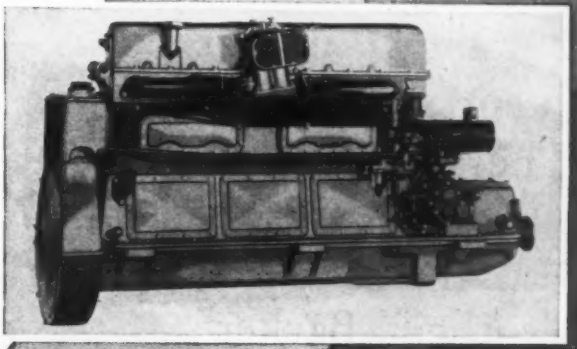
FOR THE
GAR WOOD "40"

AMERICA'S ACE OF ACTION

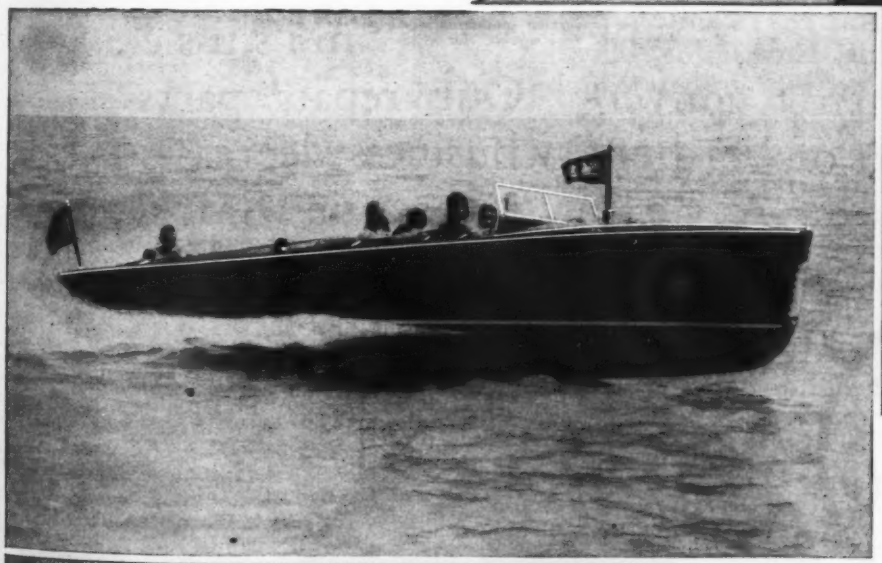
THE KERMATH "225"

Why the Kermath "225"?

Because its stout seven-bearing crank-shaft is in perfect static and dynamic balance. Because its crankcase ventilating system serves the ends of absolute safety. Because its new reverse gear and clutch meet every demand of increased power load. Because its 678 cubic inches deliver usable horsepower. Because its dual valve-in-head design is the last word in valve action for instant acceleration. Because its down-draft carburetion affords maximum power. Because its oil cooler and rectifier, its high-speed full capacity fuel pump, its specially designed salt water resisting Delco ignition and starting units, its backfire arrester, are all new features to give boat owners the grandest power plant ever offered for high speed use.



KERMATH MANUFACTURING CO.
5879 Commonwealth Ave. Detroit, Mich., U.S.A.



1929 GEAR SALES REPAIRS

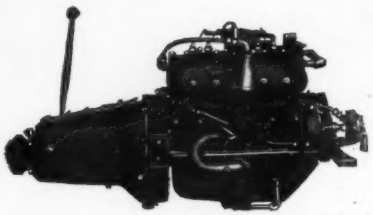
2000 RPM!

SUBMERGED DRIFT!

—But No Repairs Needed for Joes Gears!

"An accident during one of our tests proved the value of the double clutch construction. The writer was running the boat with throttle wide open, the engine turning nearly 2000 r.p.m., when the propeller struck a submerged drift. The shock twisted the propeller shaft, tore loose the lags holding pillow block and, of course, ruined the propeller, but no damage was done forward of the shaft coupling. Naturally, we did examine the reverse gear but found it required no attention."

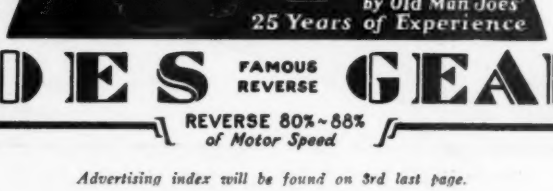
The above paragraph is taken from a letter from The Barker Factory, Inc., well known for their Barker 2 cycle motors, and marine conversion of Ford engines. A year ago, they adopted Joes Gears as standard equipment for their marine conversion motors, after exhaustive tests in use . . . and even misuse. Our repair parts business decreases as our Gear sale increases.



Barker's marine conversion combining Model A Ford Motor and Joes double clutch gear

THE SNOW & PETRELLI MFG. CO.
19 Fox St., New Haven, Conn.

52 Engine Builders Standardize on

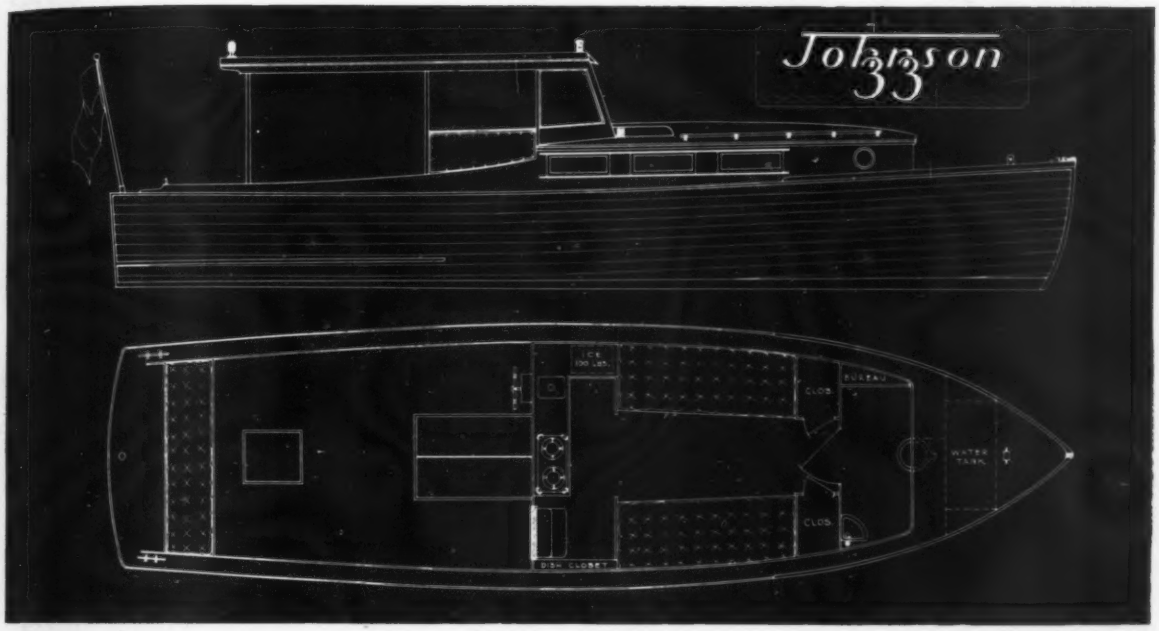


JOES FAMOUS REVERSE GEARS

REVERSE 80%~88% of Motor Speed

Advertising index will be found on 3rd last page.

A New Johnson Sea Skiff
Thirty-Three Foot Cruiser



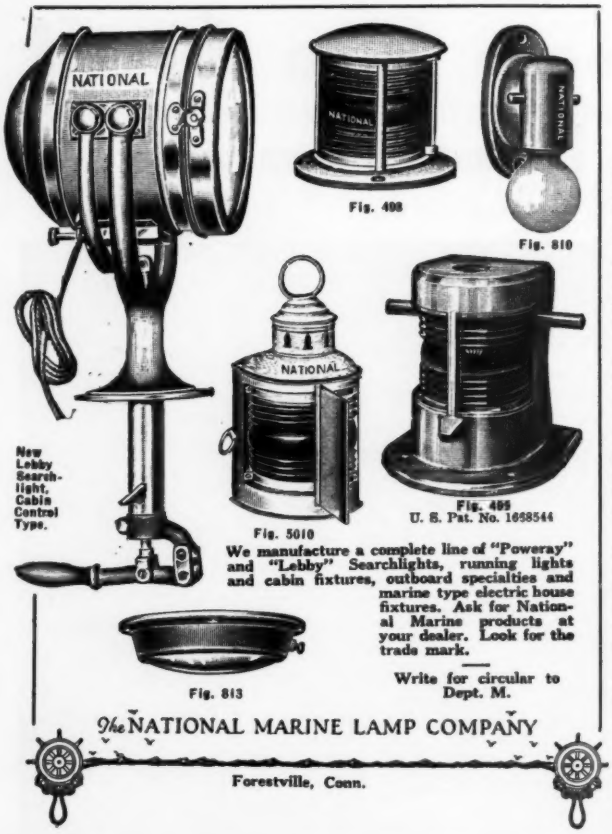
BUILT to the same standard of quality as other well-known models of Johnson sea skiffs, this new thirty-three footer, available with single or double cabins and priced at a new low level for craft of its size and quality, meets the demand for a moderate sized sea skiff having full and complete cruising accommodations, including berths for four to six, large lavatory, bureau, two full length clothes lockers and a complete galley. Powered with a 150 H.P. engine, the Johnson "33" has a sustained cruising speed of 23 miles per hour.

Write today for full particulars on the new Johnson "33"

HUBERT S. JOHNSON
BOAT & ENGINE WORKS
Bayhead, New Jersey

Johnson "38" Cruiser

The Johnson "38" is acknowledged to be the finest sea skiff cruiser ever offered by any builder. It is built to the most exacting standards for critical yachtsmen who want the best available craft for deep sea cruising and fishing. Single and double cabin models for four to six persons. Powered with 200 H.P. Sterling engine. Speed 22 M.P.H. Equipment and furnishings include every needed item of boat gear in addition to china, silver, linen and blankets, etc. Also radio receiver. Delivered ready for immediate cruising.



We manufacture a complete line of "Poweray" and "Lebby" Searchlights, running lights and cabin fixtures, outboard specialties and marine type electric house fixtures. Ask for National Marine products at your dealer. Look for the trade mark.

Write for circular to Dept. M.

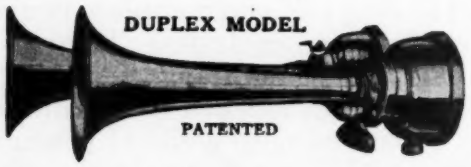
The NATIONAL MARINE LAMP COMPANY

Forestville, Conn.

STROMBOS

compressed air marine signal

Made in 15 models and tones for all types of sea, river and lake craft. With curved and straight projectors, of polished brass, nickel or chromium. Operates from pet cock or air tank.



At a touch of the button or cord your Strombos, *the long distance marine signal*, speeds messages far ahead, penetrating wind, fog, storm and noise. Distinctive, pleasing tone aids clear reception. Send for catalog.

(DEALERS—Selling Strombos signals satisfies your customers and yourself!)

J. THOMAS RHAMSTINE*

Successor to American Strombos Co.

504 Woodbridge East Detroit, Mich.

YARD AND SHOP

(*Continued from page* 116)

PARIS NAUTICAL SHOW ATTRACTS MANY VISITORS

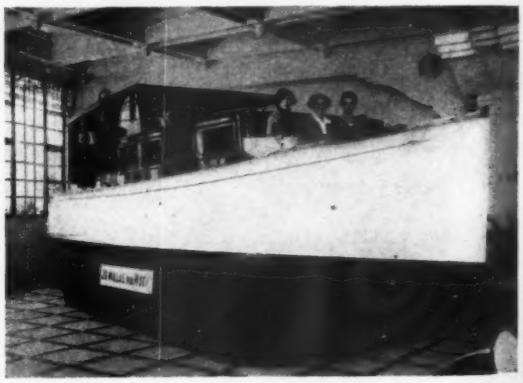
The Fourth Paris Nautical Salon held at the Grand Palais from December 11 to 22, 1929, aroused a more genuine interest among the public in water sports, boats and boating than any previous show of its kind had ever done, according to advices received from the Paris office of the Automotive Division of the Department of Commerce. Greater attendance at the show than in previous years, and many favorable newspaper comments on the exhibits, seems to indicate that the French people are anxious to take a fuller advantage of the splendid facilities their country offers in the way of water sport on the many rivers and canals as well as along the long coast line.

About two hundred firms manufacturing motor boats, yachts, canoes, marine engines, nautical equipment and accessories of all kinds displayed their wares during the 10-day period of the Paris Nautical Show.

Practicaly all the exhibitors were French, although American, German and English products were exhibited in the stands of individual local dealers. Three well-known makes of American outboard motors were displayed in the stands of dealers, and attracted considerable attention and favorable comment, as did also an American make of stationary engine used in yachts.

More sail boats were exhibited than last year, as well as a large number of motor boats, canoes and rowboats, all of which were of French manufacture. Lighthouse equipment, modern motor-driven lifeboats shown by the French Coast Guard, and a few other special displays illustrating a cross section of French maritime life rounded out the exhibits that were placed among the commercial displays to add interest to the Salon.

Motor boat registrations in France have been slowly but gradually increasing in the past few years. On January 1, 1929, there were 3,929 motor boats officially registered in the country, as against 3,310 in the beginning of 1928, and 2,837 on January 1, 1927, an average net increase in registrations of about 600.



A Corsair Cruisader on display in the spacious showroom of Resta Hermanos, Buneos Aires motor boat dealer

A CONSISTENT WINNER

Glancing back over the records of race results for the past year, one is impressed with the frequency with which the Chris-Craft name appears in the list of winners. A pamphlet prepared by Chris Smith & Sons Boat Company of Algonac contains a list of the more important 1929 Chris-Craft victories not only in this country but also abroad as well. Seventy-six first prizes stand out, with victories in all classes in the important sanctioned regattas of the A. P. B. A., held at Newport, Red Bank, Detroit and Washington.

HUCKINS RECOMMENDS DUPLEX

Recognizing the fact that proper engine operation depends largely on the use of good oil, and having found that Duplex Marine Engine Oil made by the Enterprise Oil Company of Buffalo, N. Y., has always insured such proper performance, the Huckins Yacht Corporation of Jacksonville, Florida, makes a practice of attaching a plate to each of its Fairform Flyers recommending the use of this oil to operators of the boat. They have found from actual experience that grade Z Duplex in the crankcase and Kasson waterproof grease in the water pump go a great way toward freeing operators from all lubrication difficulty.

(*Continued on page* 122)

Advertising index will be found on 3rd last page.

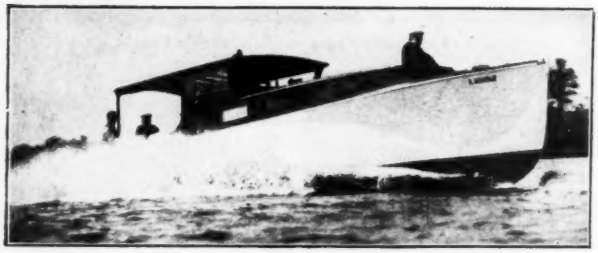
THE HOLLEY DOWNDRAFT CARBURETOR IS THE MOST EXPENSIVE CARBURETOR ON THE MARKET BUT RESULTS JUSTIFY ITS PRICE

USED BY

Chrysler, Gray, Kermath, Lathrop, Lycoming, Scripps, Speedway, and Chris Smith

HOLLEY CARBURETOR COMPANY

DETROIT, MICHIGAN



The "Marblehead" Stock Model, Trunk Cabin Cruiser, designed and built by Staples, Johnson & Co., Biddeford, Me.

TIEBOUT EQUIPT THROUGHOUT

An outstanding example of preference for Tiebout Hardware among builders of fine craft.

W. & J. TIEBOUT
NEW YORK
118 CHAMBERS STREET

MoToR Boating

CAN BE BOUGHT AT YOUR NEWSSTAND

SAY TO YOUR NEWSDEALER
"SAVE ME A COPY"

HE WILL BE GLAD TO RESERVE YOUR

MoToR BoatinG
For You
EVERY MONTH

YARD AND SHOP

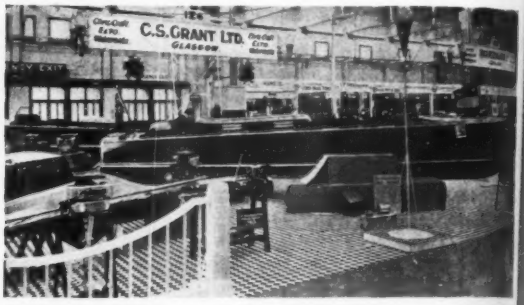
(*Continued from page* 120)

CHRIS-CRAFT RECORD SALES ABROAD

An accompanying illustration shows the Chris-Craft exhibit at the Scottish exhibition in Glasgow, Scotland. Two of these famous boats were on display at this recent exhibit and it is interesting to note that they were the center of attention.

The year 1929 has been a good one for the sale of Chris-Craft in England. They have more than doubled their 1928 exports to that country. This is encouraging to those who regard the export trade as an indicator of business trends. With the introduction of the 20-foot model, the 34-foot commuter, and the 48-foot yacht to their line, everything seems to indicate a record breaking 1930 abroad.

At the present time approximately 15% of this company's production goes to foreign countries and with the orders that are being received daily this percentage is continually going up. Despite the cheaper labor obtainable abroad, Chris Smith and Sons Boat Company have been able to compete successfully with all competition and have delivered boats in England at a price much cheaper than the local builders could attempt to build the boats there. This would seem to be but another indication of American standardization applied to the building of boats in this case.



The Christ-Craft display at a recent exhibit in Glasgow, Scotland

BUDA BUILDS GAS AND DIESEL

The Buda Company, of Harvey, Illinois, besides building a series of gasoline marine engines, also offer to those yachtsmen who prefer the diesel type of power a highly developed six cylindered oil engine of 6½-inch bore and 8¾-inch stroke which has a power output of 180 horsepower at 1,000 r.p.m. Many purchasers of yacht and cruiser engines are partial to the diesel type and the dependable and economical performance of this motor has already won enthusiastic praise from many owners.

Their gasoline models include three motors of 75, 85 and 130 horsepower, which are representative of the most modern accomplishments in the art of marine designing. The largest of these, the 130 h.p., is available with built-in reduction gear which enables it to drive the heaviest cruisers and work boats economically and efficiently. A new model is now offered in a six cylindered type with bore of 3½ inches and 4½-inch stroke and piston displacement of 260 cubic inches. Indications are that this model will rapidly achieve the popularity of its companions.

GREAT NECK FORMS YACHT CLUB

Great Neck is now to have a yacht club of its own, the formation of the Great Neck Yacht Club having been announced, with headquarters at Manhasset Bay. Work on the property has been started and the expectation is that it will be formally opened in the spring.

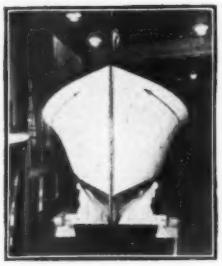
An acre and a half of ground is included in the grounds, extending several hundred feet out into Manhasset Bay. This is to be improved by bulkheading and filling after which construction will be started on the clubhouse, swimming pool, tennis courts and dock. Excellent anchorage facilities are to be provided.

Membership in the new organization is to be restricted by invitation with a limit of 200, fifty members being enrolled at the present time. The club is expected to prove expecially popular with Great Neck residents who have heretofore found it necessary to use out-of-town clubs.

David Kemp has been elected commodore; E. Baker, secretary; Flynn Andrews, treasurer; and H. R. Young, chairman of the membership committee.

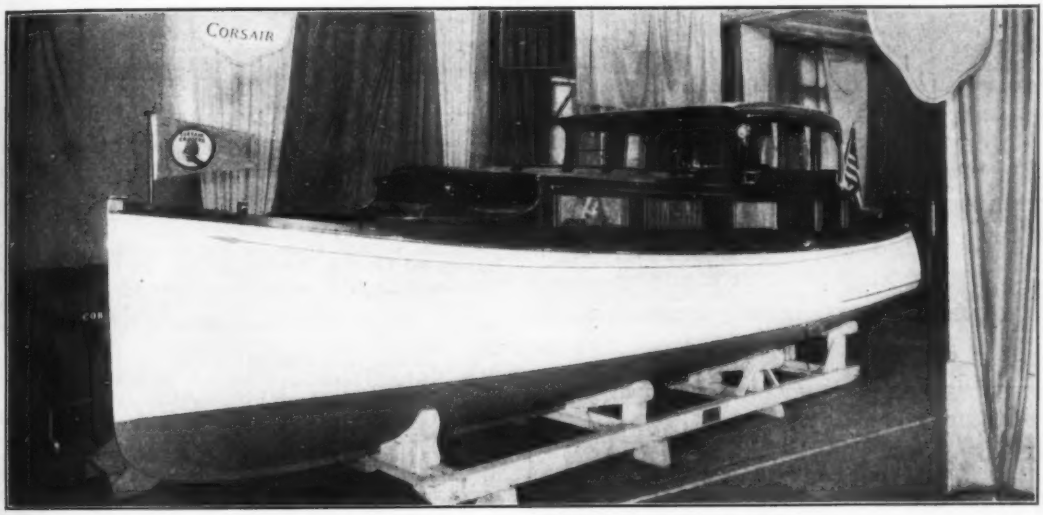
(*Continued on page* 124)

Advertising index will be found on 3rd last page.



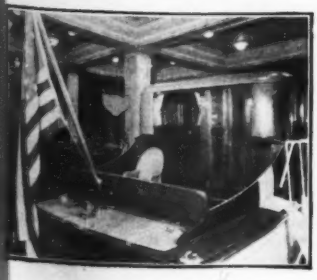
SUPREME

AT THE SHOW — AT THE SHORE



The Corsair Thirty-Six Foot Cruiser as shown at the New York Motor Boat Show

CROWDS gathered at the National Motor Boat Show. Voices rang with praise. The great new Corsair thirty-six foot cruiser was shown for the first time. A few short weeks more. Spring will come. Crowds will congregate again . . . acclaiming . . . admiring . . . envying. Corsairs will lie at anchor off shore. White flannels will stride their decks. Gay yachting dress will shimmer in their cockpits. And the enthusiasm aboard will be echoed by those who admire from afar—for here indeed is a craft for all who have a fine appreciation of masterful marine engineering. May we send you a photographically illustrated brochure?



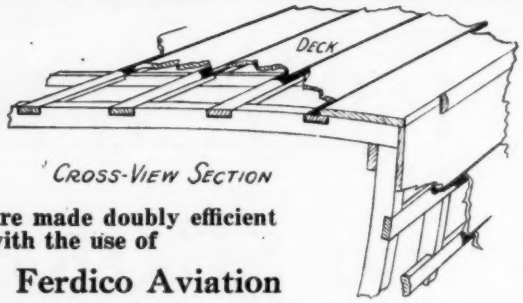
The roomy after cockpit—showing entrance to the distinguished enclosed deck house designed by LeBaron exclusively for Corsair.

CORSAIR BOAT COMPANY

1030 Buhl Building.
DETROIT

Yards:
TRENTON, MICHIGAN
on the Detroit River

batten Seams



CROSS-VIEW SECTION

are made doubly efficient with the use of

Ferdico Aviation Liquid Marine Glue

Tenacious—Durable—Resilient—Preservative

When putting boat frames together coat battens liberally with FERDICO Aviation Glue. It not only is a water-stop but acts as a preservative if used on all rabbets and mortised joints, such as chine logs, bilge stringers, battens, tenons and double planking. It never dries out.

THERE IS A JEFFERY'S GLUE FOR ANY LEAK

Send for free booklet, "Marine Glues"

L.W. Ferdinand & Co.
152 Kneeland Street Boston, Mass.

Kelvin & Wilfrid O. White Co.

38 WATER ST. N. Y. CITY **112 STATE ST. BOSTON**

Chris-Craft Cruisers

use our 5" Chromium Plated Skylight Binnacle and Underlighted Compass, and are fitted with our patent Spring Suspension to overcome the effect of high speed and to insure a steady compass.

Circulars on request.

YARD AND SHOP

(*Continued from page 122*)

LYCOMING SUPPLIES MOTORS FOR DODGE

The entrance of the Lycoming Company into the marine engine field in a large way is one of the most interesting developments of the year in the automotive world. Lycoming is part of the immense Cord organization, which builds Auburn, Cord front wheel drive and the 265 horsepower Duesenberg automobiles and owns the Stinson Airplane Company.

The new line of Lycoming marine engines includes motors of four, eight and twelve cylinders, ranging in horsepower from 40 to 300, designed for high speed racing boats and runabouts, commuters and express cruisers. They will be used exclusively on all Dodge boats for 1930.

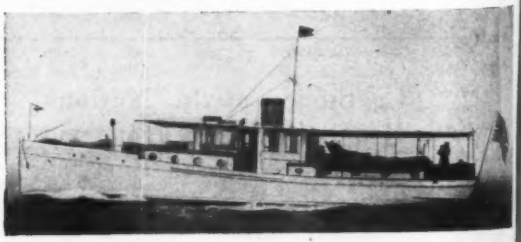
The model U-A 40 horsepower, 4 cylinder engine for the Dodge 16-foot runabout is equipped with electric starter and generator, improved oil cooler, fuel pump, carburetor, tachometer take-off, thermo gauge connection and numerous other advancements made available to the motor boating public for the first time in an engine of this size, in a determination to provide boat owners with the conveniences to which they have become accustomed in their motor cars at prices which are made possible only by the efficient quantity-production methods perfected by the automobile industry, on which the enormous Dodge manufacturing schedule for 1930 is modeled.

The Lycoming marine engines, all of which will be used in Dodge boats, are as follows: Four cylinder, bore 3⅛, stroke 3⅞, 40 horsepower at 3,200 r.p.m.; eight cylinder, bore 3⅛, stroke 4½, 115 horsepower, at 3,200 r.p.m.; eight cylinder, bore 3⅛, stroke 4½, 125 horsepower at 3,200 r.p.m.; eight cylinder, bore 3¾, stroke 4¼, 165 horsepower at 3,000 r.p.m.; twelve cylinder, bore 4⅝, stroke 5 300 horsepower at 2,400 r.p.m.

LAKE ERIE'S POPULAR BEACH CLUB

Visitors to and guests of the Catawba Cliffs Beach Club located on Catawba Peninsula, near Port Clinton, Ohio, are most enthusiastic in their expressions of appreciation of the hospitality and good fellowship found there, and are impressed with the sport and social facilities which the club provides.

The yachting and boating part of the Catawba Club's program has not been neglected. A $100,000 basin, completely landlocked and sheltered by protecting breakwaters, is available for canoes, speed boats and yachts. It covers about 9 acres with a normal depth of 7 feet of water. Slips for 50 boats are provided at one side of the basin, connected by a 6-foot boardwalk. As the need arises, the walk and slips can be continued around practically the entire circumference of the basin.



The 65-foot Fearless II, an exceptional performer with a pair of Cummins diesels driving through Morse reduction gears

ENGINES OF CONSTANT SERVICE

The Buffalo Gasolene Motor Company of Buffalo, New York, well known for their heavy duty engines of constant service, are producing a series of six popular marine engines well adapted to the requirements of cruiser and work boat service. Powers range all the way from the little four cylindered 50 h.p. model up to the big, powerful 240 h.p. type in eight cylinders.

The big dreadnaught models have a bore of 5⅞ inches and a stroke of 7 inches, and are built in 4, 6 and 8 cylinder types. In the 6 cylindered model Morse reduction gears are also available. The Buffalo reputation for the production of dependable power plants for the most severe service conditions has never been questioned and Buffalo owners invariably place such dependence in their motors that they specify Buffalo power plants when they are in the market for power for their new craft.

(*Continued on page 126*)

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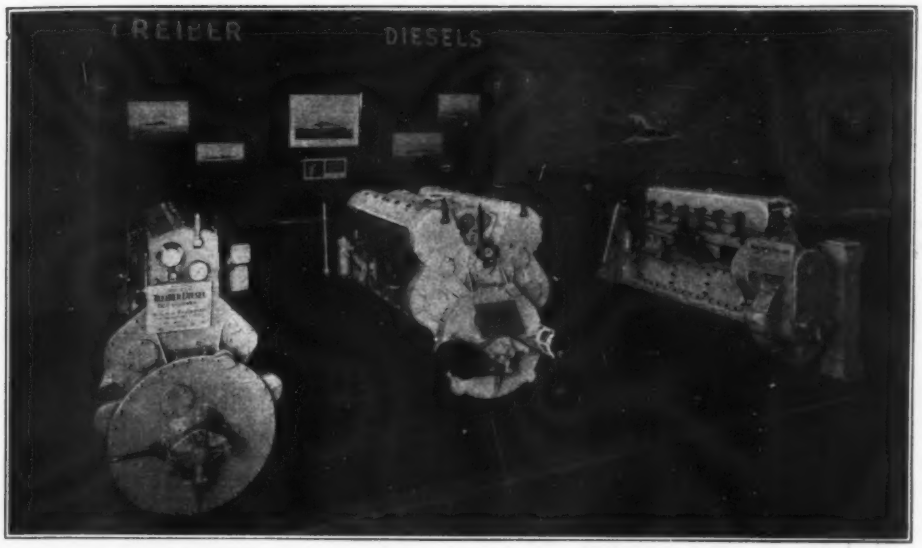


A HIT OF THE SHOW!

WITH every important manufacturer of gasoline and Diesel engines exhibiting at the National Motor Boat Show at the Grand Central Palace in New York, the Treiber Diesel Exhibit was a marked center of attraction. Crowds flocked to the Treiber booth from the moment the Show opened until it closed.

The Treiber Exhibit, reproduced above, consisted of 3 Marine Engines—a 150 H.P. 6-cylinder (left), a 300 H.P. 12-V-cylinder (center), and a 100 H.P. 6-cylinder (right). Also 2 Electric Generating Sets—a 7½ K.W. and 35 K.W.

On this occasion many Yachtsmen had their first opportunity to prove to themselves that the smaller Treiber Diesels are truly suitable for high-speed boats — that they do, in fact, "occupy about one-third the space and scale about one-sixth the weight" of earlier type Diesels—that they are not so bulky and heavy as to tend to defeat their own purpose—that fear of vibration is groundless and no bar to their installation—and that the owner of a small yacht, if Treiber Diesel equipped, can enjoy to the utmost the pleasures and advantages of a fast boat.

At the Treiber Exhibit it was easy to see why the many exclusive Treiber features reflect themselves in DISTINCTIVE *Boat Performance*, and are a warranty to Treiber Owners of

MORE MILES PER HOUR } of comfortable, vibrationless cruising with DIESEL SAFETY and ECONOMY.

If you missed this great exhibit of Treiber Diesels, write for the Show Folder describing these engines and picturing some of the yachts for which they have been built. Should you give the size of your present or proposed boat—the power in her or that you expect to put in her—and the speed desired, we will promptly send you, without obligation, Bulletins descriptive of suitable engines from the Treiber Line—65 to 3000 H.P.

TREIBER DIESEL ENGINE CORP.

DEPT. MB CAMDEN, NEW JERSEY U. S. A.

Cable Address: "Deselmotor"

The King "28"

Sea Skiff Cruiser

Built by the originators of fast sea skiffs

CONSTRUCTED under the King sea skiff patents, this 28 footer is a good example of the ruggedness and seaworthiness built into all King Sea Skiffs.

With the finest of workmanship, lap-strake construction, all copper and brass fastenings, ribs of steam bent white oak, heavy spruce bottoms and all mahogany trim, this cruiser stands alone in value and performance.

With full cabin accomodations and speed of 16 to 18 M.P.H.—$2995.00

With full cabin accomodations and speed of 22 to 25 M.P.H.—$3350.00

KING BOAT WORKS
Highlands, New Jersey

PELORUS

A PRECISION instrument for taking bearings of the sun, stars, or land objects, and for determining compass errors. Dial 4½ inches, graduated in degrees 0 to 360. $26.50

John Bliss & Co., Inc.

83 Pearl Street **New York**

Catalog mailed upon request.

YARD AND SHOP

(*Continued from page* 124)

TACOMA FIRM REPRESENTS CAILLE MOTORS

Announcement has been made of the appointment of the Kimball Sporting Goods Company, of Tacoma, of which Howard A. Steele is president and manager, as Pacific Northwest and Alaska factory distributor for Caille motors, succeeding the Seattle Marine Equipment Company, of Seattle. With an initial shipment of two carloads of Cailles—the largest order ever placed by a Tacoma dealer—the Kimball firm has established agencies throughout Washington, Oregon and Alaska. In Seattle these are A. M. Hunt & Son, Pleasure Marine, Inc., Grayson & Brown, Stebbins Hardware Company, C. F. Brown and Peterson Hardware Company.

As Puget Sound is mainly a sportsman's playground, the Caille is gaining widest distribution in the 5-Speed Master and Junior models, which are considered ideal for the fishermen.

Jan W. Smits, new Director of Service of the Dee Wite organization

GOOD MARKET FOR OUTBOARDS AT GLASGOW

Interest in outboard motors for light boat propulsion has been accelerated in the West of Scotland during the past season by the formation of the Glasgow Motor Boat Racing Club. American motors are popular and by consistent winning of races have proven their reliability and speed. Dealers are satisfied with business done during the summer months and look forward to next season optimistically.

Competition of British and foreign makes of outboard motors is not keen, there being only one motor of British manufacture distributed at Glasgow, and none of foreign make are sold here. In view of this fact and in the opinion of dealers it is believed that American manufacturers who have not yet made arrangements for distributing their motors in Glasgow could enter this market profitably, provided they are willing to grant sole selling agencies in Scotland to Glasgow dealers.

The Glasgow Motor Racing Club was formed in February with headquarters on the Garelock, a lake within easy distance of Glasgow, with an outlet to the Firth of Clyde. Races are held approximately twice a month during the season, and although the membership is not yet large, the Secretary states that the publicity given to the races by the daily papers is affording ample advertisement for the club, and that by the opening of next season he expects its membership to include the majority of the owners of outboard motor boats in the district.

The most popular type of motors are class B. There are, however, a few motors of other sizes used there, but the majority are of this class. Prices range from £40 ($194.66) upwards to £60 ($291.99), with the British Watermota class B selling retail at £49 ($328.14) and American motors of the same size selling from 10s ($2.43 to £2 ($9.72) lower. Trade prices are less 30% with an additional 2% for cash.

Sales at Glasgow are made both through agents who import on consignment and distributors who buy outright. Concerns in the United States desiring to enter this market should circularize agents there, a list of whom is on file in the Automotive Division, Bureau of Foreign and Domestic Commerce, Washington, D. C. Few dealers would consider importing a motor and introducing it on the market unless the sole selling agency for Scotland was granted.

(*Continued on page* 128)

Advertising index will be found on 3rd last page.

A PROVEN PRODUCT FOR IMPROVED PERFORMANCE

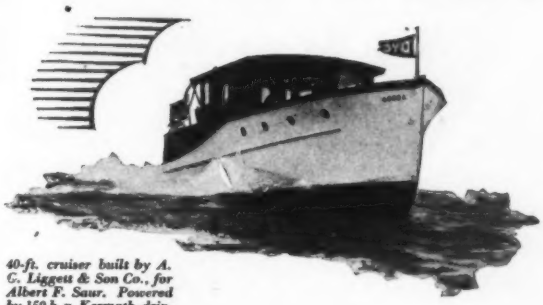
Morse Straight-Line Reduction Gears are a tried and proven marine product, accepted by scores of leading boat builders, naval architects and engineers.

Both from the performance and installation standpoint, they offer a most practical and economical means of transferring engine power to the propeller at the speed at which the propeller is most efficient.

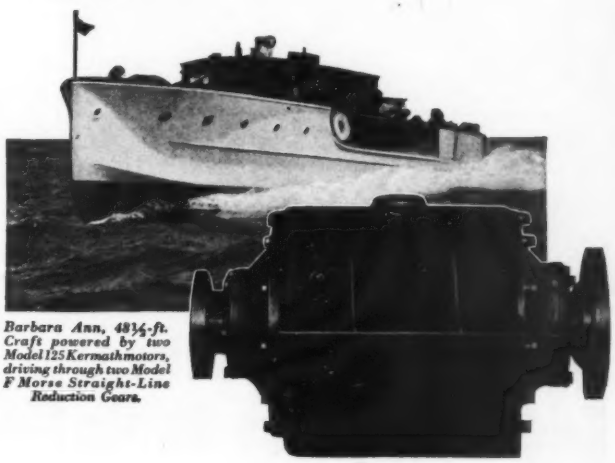
Application is desirable in all cruisers, work boats and auxiliary craft equipped with high speed engines, as well as in slow speed gasoline and Diesel installations. In operating and maintenance economies they will eventually pay for themselves.

Due to their exclusive internal gear design, the size of the complete unit has been reduced to a minimum. At the same time, installation problems have been greatly simplified. Installation may be made even in boats already in service, without changing the position of engine or propeller.

Write today for full information, including engineering drawings with dimensions. State size and type of engine used.



40-ft. cruiser built by A. C. Liggett & Son Co., for Albert F. Saur. Powered by 150 h. p. Kermath, driving through Model K Morse Straight-Line Reduction Gear.



Barbara Ann, 48¼-ft. Craft powered by two Model 125 Kermath motors, driving through two Model F Morse Straight-Line Reduction Gears.

MORSE CHAIN COMPANY
DETROIT MICHIGAN

Fearless II, 65-ft. yacht, powered by two Model U Cummins Diesel Engines, driving through two Model F Morse Straight-Line Reduction Gears. Designed by S. S. Crocker, Jr., built by W. J. Reid, owned by E. B. Phillips.

MORSE
STRAIGHT-LINE
REDUCTION GEARS

MASTER CRAFTSMANSHIP AT MODERATE COST

If you were buying a runabout for yourself—wouldn't you be interested in price—provided you knew you were getting all the racy beauty and luxurious riding comfort of the finest custom design?

Of course you would! And so would most of the prospects you are going to approach this coming season.

ATLAS runabouts have been designed built and priced to fulfill this need so that the ultimate in motor boating pleasure can be enjoyed by more people.

Which means that the ATLAS Line will enable you to close more sales—and make more money. You will find our special dealer proposition interesting. Write for it.

"Atlas"

The ATLAS Line offers four standard models—19, 23, 26 and 30 foot lengths; priced from $1375 up.

ATLAS BOAT CORPORATION, MENOMINEE, MICHIGAN

NEW "Air-Filled" Fender for Fine Boats!

Outlasts 12 Ordinary Ones

CLEAN—DURABLE—RESILIENT

No more cork stained hull, no rope grease. "Air-Filled" Fender gently pushes boat away from dock—no bumping. Half weight of ordinary fender. Buoyant. Built like a bus tire. Inflate once a year. Encased with heavy duck.

Two sizes 6" x 22", (boats up to 50 ft.) $15.00; 8" x 23", (boats up to 100 ft.) $20.00. Larger made to order. Many giving perfect service after three years use. Guaranteed. If your dealer cannot supply you order from factory. Write today for folder "How to Use Fenders."

Appliance Manufacturing Co.
5580 Greenway Avenue,
Detroit, Michigan

YARD AND SHOP

(*Continued from page* 126)

Krueger in action with his record-breaking Sigrid XI

NEW TWIN CENTRIFUGAL PUMP

Evinrude has been the pioneer in the portable pump field since 1915. It is most fitting, therefore, that Evinrude should now make the most noteworthy announcement of years; an entirely new, larger capacity, twin motor equipped, self-contained pumping outfit.

This new improved Centrifugal is powered by the Evinrude 6 H.P. Fleetwin Motor, a modern twin engine, which runs with amazing smoothness for hour after hour of unfailing service. The utmost precision is used in machining, and by carefully weighing and balancing all moving parts, a power plant which is practically vibrationless has been achieved.

The most remarkable feature of the new pump, however, is its enormous capacity. Notwithstanding the fact that the pump is no larger than a small keg of nails it is capable of pumping 15,000 gallons of water an hour and reaches a head of 50 feet with ease. The operating cost is negligible, not exceeding 15c per hour or 1c per thousand gallons.

The pump itself has but one moving part the bronze impeller, directly splined to the alloy steel shaft. When revolved, the flukes or vanes of the impeller throw the water outward with a great force and cause it to flow through the discharge pipe. The main bearing of the pump is well oversize and is provided with a generous sized stuffing box, which eliminates leakage through the bearings. The motor is fitted with the finest of ignition systems—the Evinrude magneto—of the built in flywheel type. The flywheel itself acts as an umbrella-like protection over the magneto, shielding it from rain, spray and dirt. Rich sparks are generated at very low speeds so that starting is easy.

R. C. Krueger of Berlin, who holds 43 outboard prizes including two world's records in Classes B and C and the German Golden Sports Medal

WIGGLESWORTH BECOMES DODGE DISTRIBUTOR

Announcement is made by the Horace E. Dodge Boat and Plane Corporation of the appointment of Frank Wigglesworth, president of the Atlantic Radio and Marine Company, Boston, as distributor for Dodge boats in Massachusetts territory and in Portsmouth, N. H. Mr. Wigglesworth is one of the best known boat distributors in America and is a prominent leader in Eastern motor boat racing activities.

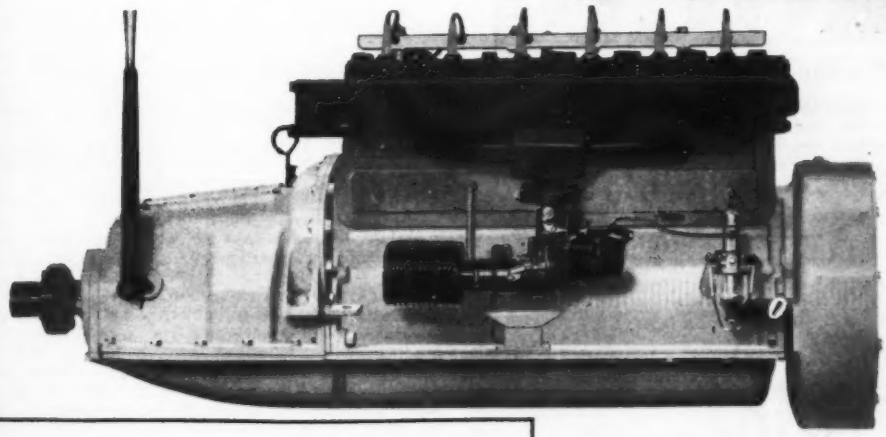
(*Continued on page* 130)

Advertising index will be found on 3rd last page.

2 BUDA SIXES FULLY EQUIPPED

$745. F.O.B. FACTORY

$775. F.O.B. FACTORY



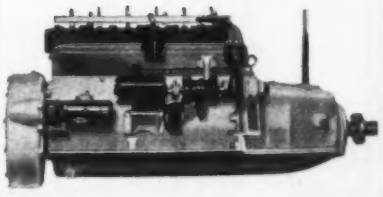
BUDA MARINE "HIVELO" engines give you the most advanced engineering practice at a modest price.

You get maximum efficiency with small bore and stroke. This assures big power output with minimum fuel consumption.

In these models you also obtain the benefits of 3-inch crankshaft and 7 main bearings. Where can you duplicate these engines at so low a price?

Model HM-260, 3½ x 4½, 260 cu. in. piston displacement at $745.00, fully equipped, f.o.b. factory.

Model HM-298, 3¾ x 4½, 298 cu. in. piston displacement at $775.00, fully equipped, f.o.b. factory.



Maximum Power at 3800 RPM	HM-260 75 HP	HM-298 85 HP

Write today for bulletins and full particulars.

Branch Offices:

30 CHURCH STREET - - - - - - NEW YORK, N. Y.
664 MISSION STREET - - - - - - SAN FRANCISCO, CAL.

THE BUDA COMPANY, HARVEY, { CHICAGO SUBURB } ILLINOIS

ESTABLISHED 1881

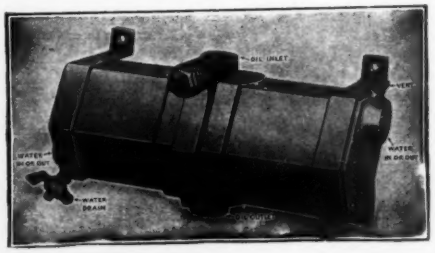
BUDA MARINE POWER

Dawn Boat is well pleased with the Groco Cooler

This cooler was installed on a six-cylinder 5 x 7 PEERLESS motor turning up 1450 revolutions. The owner informs us that it is possible for him to regulate his oil temperature to any desired degree, inasmuch as we installed a motometer and valves in the line. Furthermore, the cooler is thoroughly satisfactory.

(Signed) C. B. NELSON, President.

GROSS MECHANICAL LABORATORIES
Baltimore Maryland

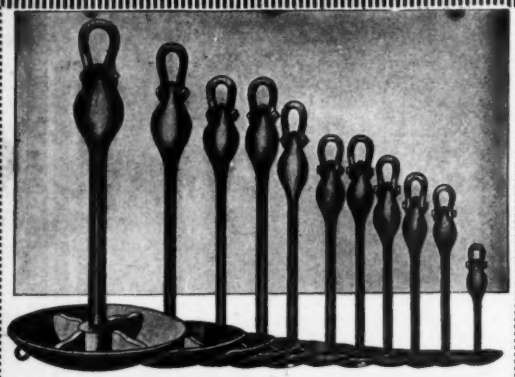


GROCO

REGISTERED U.S. PATENT OFFICE

OIL COOLERS

Standard Equipment on the finest boats and engines—specified by knowing yachtsmen everywhere.



Fairhaven BULB SHANK Mooring Anchors

NUMBERS AND DIMENSIONS

No.	Diameter of Shank	Length of Shank	Weight of Bulb	Approx. Total Weight	Price
00	1⅛"	2'	15 lbs.	50 lbs.	$ 9.20
0	1⅛"	2'	20	75	$12.20
1	1½"	3'	25	100	16.30
2	1⅝"	3' 4"	31	135	21.55
3	1¾"	3' 9"	38	165	25.05
4	2"	4'	44	200	28.40
5	3"	4'	50	230	31.85
6	2¼"	4' 6"	62	265	37.40
7	2½"	5'	71	300	42.30
8	2⅝"	5'	100	400	52.70
9	2¾"	5' 6"	125	500	65.85
10	2⅞"	6'	150	600	79.05
11	3"	6' 6"	206	700	92.25
12	3"	6' 6"	206	800	105.40
14	3"	7'	225	1000	131.75
15	3"	7' 6"	444	1250	164.70

Distributed by

Topping Brothers 157 VARICK STREET NEW YORK CITY

YARD AND SHOP

(*Continued from page* 128)

IMPORTANCE OF THE FINISH

A clever innovation and precedent was established at the Motor Boat Show in New York by Climax Boat Paints, who very successfully carried out their offer of assistance to the builders in retouching or refinishing any display boats damaged in transit.

Many of the exhibitors who suffered damages to their display crafts embraced this opportunity and were apparently highly appreciative of this service. This act of cooperation by the manufacturers of this important accessory is a unique step toward making a Boat Show a full success. Many display hulls were completely refinished and many more partially renewed.

More progressive builders no doubt now appreciate the necessity of, and possible increase sales from finer finishes. Importance of finish should not be underestimated.

No doubt production is fast becoming an important factor in the boat industry as has been the experience in many other industries necessitating an open mind to new developments. The complete success of the recent show in New York is evidence of the progress and future of the boat industry.

Many paint manufacturers who are catering to this particular industry have made a special study of the compounding of boat paints and varnishes. Elaborate research programs have been conducted at enormous expenditures in contemplation of the progress of this particular industry. Products have been tested under actual conditions and in most instances given superlative tests to be assured of their quality and stability. New processes have been developed which mark rapid strides in both economy and finer finished hulls.

The composition of these paints are based on the results from actual experience and the product is made to formulae, guaranteeing the same quality at all times. The old time method of mixing lead and oils by someone in the paint shop of the boat industry is rapidly becoming as extinct as a steam launch for costs of these old methods are becoming prohibitive and the results are not nearly so satisfactory. A master painter in a shop today is in no position to improve upon a reliable manufacturers product. He does not possess the facilities even though he were furnished the capital necessary for proper experiment.

Just picture a modern automotive factory mixing their own paints and assuming the total liability of their mixture. Plant superintendents beware—for when the Great American public start buying, and particularly novices, poor and failing finishes are very likely to prove an exceptionally large boomerang. The cheapest is very often the most costly.

Manufacturers of boat paints are well aware of these conditions and know before they offer you a product exactly what their products will endure. A boat builder is then in a position whereby he may assure the prospective owner or captain that the finishes used are as supreme in quality as the other appointments in his craft. There can be no doubt that the fineness of the finish will prove one of the most valuable sales aids the boat builder can employ.

J. B. Eck, vice-president and general manager of the Universal Motor Company

(*Continued on page* 132)

Advertising index will be found on 3rd last page.

THE *"Junior"* SEACLO

A new *trouble-free* closet *for*

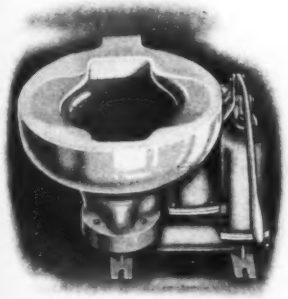


Fig. 1498

Fig. 1499

. . . Runabouts - Speed Boats - Day Cruisers - Outboards and the like

FOR years there has been a need for an extremely small fixture which could be concealed under a seat or transom and take up no extra space. Now, Wilcox-Crittenden has brought modern home conveniences within the scope of the smaller type of boat with the "Junior" Seaclo.

This new yacht closet is designed for use in a limited space. It is a compact, complete pump closet only 11½ inches high and 15 inches wide. The model shown above, No. 1498, comes without cover and integral (part of bowl) seat. The compactness of the entire fixture makes the "Junior" especially adaptable for runabouts, day cruisers, outboards, etc.

And yet this new yacht closet is made with the same painstaking care and contains the same trouble-free fixtures which have made the Seaclo line so welcome in boating circles. The two and one-half inch diameter, combined supply and discharge pump gives a volume of water that completely flushes the bowl. Now's the time to have a "Junior" installed on your craft. Use the coupon for additional information.

. . . Larger Craft as an "Extra Fixture" for Convenience . . .

THINK of the times last year when you would have blessed the installation of an "extra fixture" aboard your boat. Now, Wilcox-Crittenden engineers have produced a yacht closet which is especially adaptable for use in confined spaces where the fixture is exposed and the conservation of space essential.

As an additional convenience in double cabin cruisers, in crew's quarters of larger boats and many other places, the "Junior" will bring added boating comfort to thousands of yachtsmen. The "Junior" model, No. 1499, shown above is similar in design and construction to No. 1498 but is fitted with the special marine type concealed hinge cover.

The simplicity and positive action, the efficiency and freedom from trouble of this new addition to the Seaclo line constitute a triumph in the design and construction of a yacht closet which fills a definite boating need. And remember that the Seaclo line consists of 5 modern trouble-free fixtures for every type of craft. Send the coupon today for complete information. Wilcox, Crittenden & Co., Inc., Middletown, Connecticut.

Established in 1847

Wilcox-Crittenden

Dependable Marine Hardware

Wilcox, Crittenden & Co., Inc.
4 So. Main St.
Middletown, Conn.

Send me complete data on Seaclo Yacht Closets.

Name .....

Address .....

City ..... *State* .....

STURGES ANCHOR HOIST

Easily installed by anyone without disfiguring or marring your cruiser in any way.

Makes Anchor Raising Easy

THIS simple practical device makes anchor raising the easiest job on your boat. The Sturges Anchor Hoist provides every requirement for lowering and raising the anchor with minimum manual effort. For short stops, anchoring with the light service line is usually sufficient, without bothering to get out your heavy anchor line. When not in use, the davit and the hoist can be unshipped, leaving only the base on deck.

The Sturges Anchor Hoist is made for any type of anchor up to 100 lbs. Sturdily built, heavily galvanized. Furnished entirely in brass at slight extra cost. The davit can be designed especially to fit your boat without extra cost.

Made in three different sizes.

You will be surprised at the many features of the Sturges Anchor Hoist. Let us explain them to you. Write today for details and prices.

Davit unships here.
Carrying handle.
Windlass unships here.
Combination base, including bitt, adds to appearance of boat.
Rope is easily applied in open type block.
Model No. 2 with 3 speed transmission, for anchors 60 to 100 lbs. The low speed gives powerful leverage for breaking the anchor loose from a mud bottom. Second speed (on which the handle is shown) is normally used for hoisting the anchor. The high speed or direct drive on main shaft is for quickly reeling in the slack of the rope. This model also has powerful brake for lowering anchor into water.

Patent Applied For

We also manufacture a special hoist for handling outboard motors.

STURGES ANCHOR HOIST
3 Kensington Road. Bronxville, N. Y.

WOOLSEY'S Paints & Varnishes

TRADE MARK

Quality Products Since 1853

You Will Surely Require Copper Paint

BUY THE BEST!

WOOLSEY'S Copper Paints, put up in Red, Brown, and Green, have been standards of excellence for the past 76 years. They give absolute protection against fouling either by seaweed, barnacles or other marine growth. It will pay you to use WOOLSEY'S.

Write today for Marine Paint Booklet—Free

C. A. WOOLSEY PAINT & COLOR CO.
Jersey City New Jersey U.S.A.

YARD AND SHOP

(*Continued from page* 130)

A NEW VARNISH PRODUCT

Bakelite marine varnish, a new product announced recently to the boating trade, was the central feature of the Bakelite Corporation exhibit at the Motor Boat Show in Grand Central Palace. This company, hitherto an exhibitor in the electrical, radio, and chemical expositions, was this year found for the first time at the boat show. The new varnish was introduced in a setting of the older industrial uses of phenol resinoids, which were invented by Dr. L. H. Backeland in his laboratory at Yonkers, New York, about two decades ago. Entry into the marine field is, in fact, coupled with related research and development work, which has underlain the extensive application of phenol resinoid plastics in automotive and radio work, and more recently in airplane construction. Earlier resinoid products, such as varnish, enamel, and lacquer, have been used during the past eighteen years in the manufacture of electrical and chemical equipment. In the case of these products, however, baking has always been required to bring out their best propertics. The new marine varnishes, likewise a line of new resinoid lacquers, are more flexible than the old line materials, and are air-dry, with no baking required. A feature of the display was the inclusion of raw materials, and initial resins, from which the marine varnishes are derived.

The 21-foot Dodge runabout attracted a great deal of attention at the show

HATTEN HEADS DODGE PRODUCTION

Horace E. Dodge, president of the Horace E. Dodge Boat & Plane Corporation, of New York, Detroit and Newport News, Va., announces the appointment of Earl R. Hatten, as factory superintendent in charge of the production of over 3,000 Dodge boats for 1930—the most ambitious manufacturing schedule ever embarked upon by a boat building company.

Mr. Hatten is an alumnus of Rensselaer Polytechnic Institute, of Troy, N. Y., and of the Massachusetts Institute of Technology, at Cambridge, Mass. During the war he was lieutenant in the United States Navy in command of six 110-foot submarine chasers in the Irish and North Sea and, after the armistice, assistant engineering officer on a government transport bringing troops home from France.

For six years after the war Mr. Hatten was engaged in engineering work in the Texas and Oklahoma oil fields and became field efficiency officer for the Wolverine Oil Company and the Roxana Petroleum Corporation, at Tulsa, Oklahoma. Following this work he became assistant engineer for the Hudson River Regulating District, at Albany, N. Y., and was in charge of field parties making surveys and performing other tasks in connection with the Conklingville Dam and Sacandaga Storage Reservoir Project.

In January, 1926, Mr. Hatten became plant manager for the Sea Sled Corporation at West Mystic and Groton, Conn. His first job here was to equip and place in operation a new Sea Sled plant at Groton. With an entirely new force of men and leaving the Mystic plant organization undisturbed, Mr. Hatten went into a vacant building on March 1. Twenty-three-foot Sea Sleds were being completed, ready for delivery, at the rate of one per day, by June 1, which constitutes a record in motorboat organization work.

Since 1927 Mr. Hatten has been president and manager of an automobile distributing and service organization in Albany and Troy, thus acquiring, in addition to his motor boat experience, a familiarity with automobile methods which Dodge desires throughout its entire personnel.

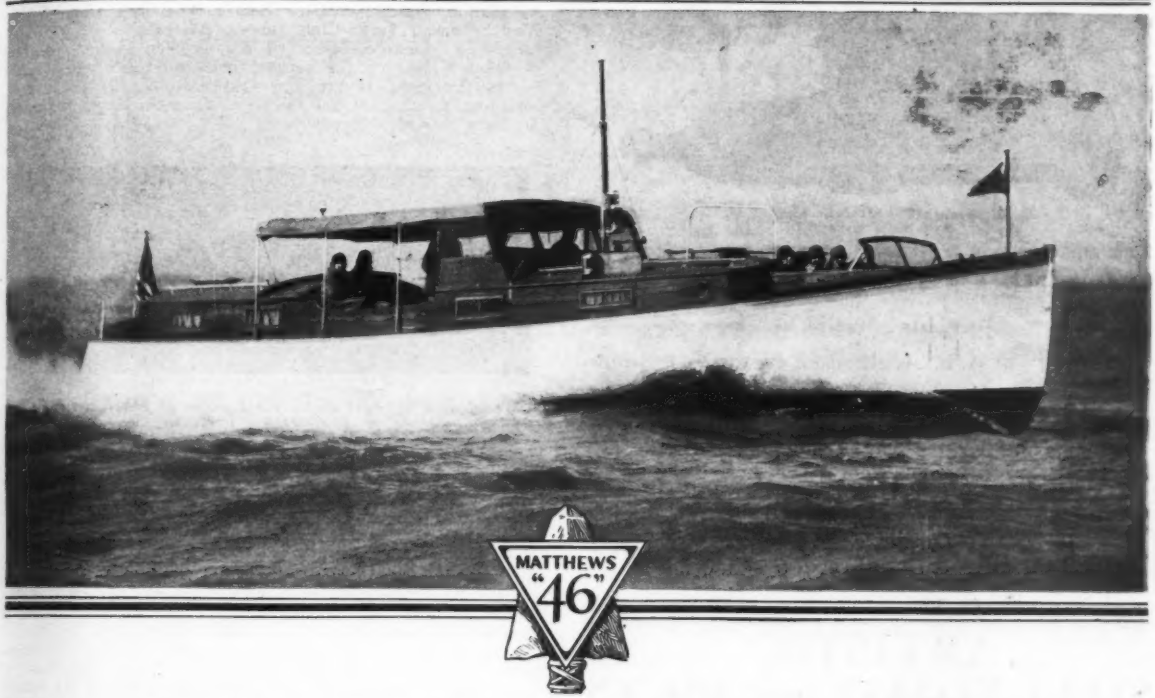
Mr. Hatten will be in charge of Dodge production at Detroit until March 1. On that date he will go to inaugurate the assembly line production of Dodge boats in the $2,000,000 plant now nearing completion on the shores of Hampton Roads.

(*Continued on page* 134)

Advertising index will be found on 3rd last page.

TOBIN BRONZE Shafting

Standard Equipment on all MATTHEWS Cruisers



EVER since the first Matthews cruiser was launched in 1890, TOBIN BRONZE has been the standard propeller shafting on all Matthews models. Service records over a period of forty years have proved to Matthews engineers the dependability of TOBIN BRONZE Shafting. Their line consists of 10 models of 38 and 46 foot cruisers—all equipped with this time-tried material.

Since the early days of the motor boat industry, TOBIN BRONZE, produced solely by The American Brass Company, has filled a definite need for high strength, dependable shafting with unusual resistance to corrosion. It is made by methods developed during a century's manufacturing experience, and is furnished in trade-marked sheets, rods, tubes and specially turned and straightened shafting.

THE AMERICAN BRASS COMPANY

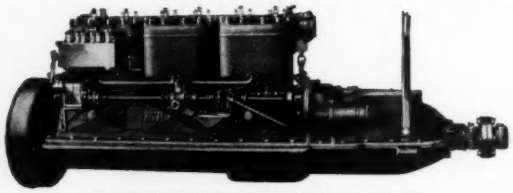
General Offices: Waterbury, Connecticut

ANACONDA COPPER

BRASS ANACONDA BRONZE

The trade-mark "Tobin Bronze" is registered in U. S. Pat. Off.

REGAL
offers 18 MODELS for 1930
1 to 6 Cylinders—2 h.p. to 75 h.p.



Regal Model KF. Six cylinders, 75 H. P. Bore 5½". Stroke 7"

Model "GC"—30 H. P., four cylinders, 4¾" bore x 6" stroke, 800 r. p. m.
Model "KC"—40 H. P., four cylinders, 5½" bore x 7" stroke, 800 r. p. m.
Model "GF"—50 H.P., six cylinders, 4¾" bore x 6" stroke, 800 r. p. m.
Model "KF"—75 H. P., six cylinders, 4¾" bore x 6" stroke, 800 r. p. m.

Regal Engines are equipped with high speed reversing gears, silent chain drive for timing gears, gear oil pump lubrication

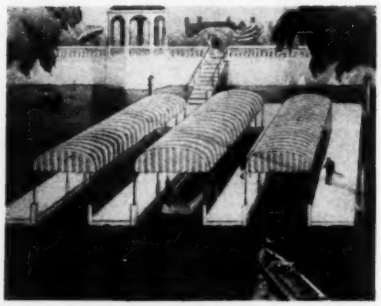
18 Models, ranging from 2 H. P. to 75 H. P.

Send for catalog and new price list

Also manufacturers of Regalite ¾ Kw. Air-cooled Electric Lighting Plants for boats and homes. Ask for particulars.

REGAL GASOLINE ENGINE COMPANY
Established 1901
74-82 WEST PEARL ST. COLDWATER, MICHIGAN

ARTISTIC
STEEL FLOATS and DOCKS



This trible slip float was designed and built by the WALSH - BUGBEE CO., 4 West 56th St., N. Y. C., for a prominent yachtsman at Great Neck, L. I.

FASTIDIOUS yachtsmen and motorboat enthusiasts find it is easier to buy even the most elaborate boats, than it is to provide suitable landing, docking, and mooring accommodations. We sensed this need and proceeded to cater to it as a specialty—with eminently satisfactory results.

Walsh-Bugbee Artistic Steel Floats and Docks—built on sound engineering principles—are not only utilitarian in design and sturdy in construction, but they are particularly artistic in appearance, thereby adding a note of dignified color to one's waterfront property without detracting from the beauty of the surrounding landscape.

Our Marine Engineer will inspect your conditions and make recommendations without obligation. Our floats are designed to meet every situation and condition—with or without slip drives. Let us solve your mooring problems.

Send for a copy of our catalogue.

A FLOAT AS GOOD AS YOUR BOAT

THE WALSH-BUGBEE COMPANY INC.

Executive Office 4 West 56th St. | **Telephone Circle 4653** | **Allen B. Walsh Gen. Sales Mgr.**

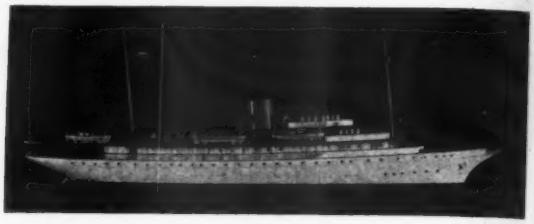
YARD AND SHOP

(*Continued from page* 132)

NORTHWEST A. P. B. A. SECTION ORGANIZED

The Pacific Northwest Section of the American Power Boat Association has been formed, taking in the states of Oregon, Washington, Idaho, British Columbia, and the territory of Alaska. The following clubs belonging to the American Power Boat Association are in section: Portland Outboard Association, Portland, Ore.; Everett Motor Boat Club, Everett, Wash.; Olympia Yacht Club, Olympia, Wash.; Northwest Outboard Association, Seattle, Wash.; Seattle Outboard Club, Seattle, Wash.; Juneau Yacht Club, Juneau, Alaska.

Philip L. Jackson, owner of the Oregon Journal, has been elected president of the section, making him a vice-president of the American Power Boat Association. Adolph Schmidt, managing director of the New Washington Hotel in Seattle, has been elected secretary.



Model of a 265-foot diesel yacht designed for E. R. Johnson of Moorestown, N. J., by Henry J. Gielow, Inc. She will be used on a South Pacific archaeological expedition

HEAVY RACING SCHEDULE FOR NEW JERSEY

Thirty-three power boat regattas have already been placed on New Jersey's calendar for 1930, and the date-setting season is just starting. As one of them is the Gold Cup at Red Bank, August 16-17, the state promises to have the biggest and most important motor boat racing schedule in the East. A list of seventeen regattas, of which outboard events will be the chief feature but which will include also stock runabouts and special classes like 151s, has been set by the Racing Association of South Jersey Yacht Clubs. This list includes that of the Atlantic Coast Mariners Association. It has only two open week-ends from Memorial Day until after Labor Day. The Delaware River Yachtsmen's League has set fifteen dates with the Labor Day week-end the only unoccupied one from mid-June to mid-September. Cruiser racing, in which this group is one of the foremost in the country, forms the backbone of its season but the list includes outboard and inboard races, in addition to one nine-day cruise.

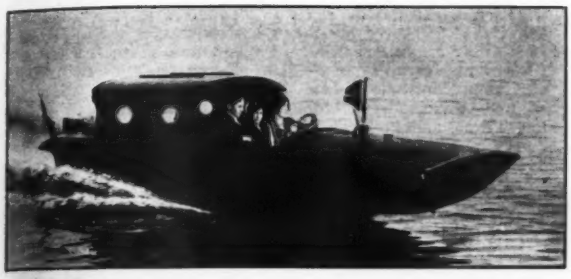
Sailboat racing in Jersey, in spite of traditions extending back many decades, is taking a sudden jump forward that is almost like that of the lively young outboards. There will be at least two new fleets this year, and nearly all the existing fleets will be augmented. Interestingly enough, the most important new fleet will be that of the Red Bank Yacht Club, famous as the host of the Gold Cup regatta last year and this. That important motor boating club will add a fleet of some fifteen Star class racers, the third such fleet in the state, and promises to stir things up in windjamming circles on the North and South Shrewsbury rivers, where the centerboard fleets of the Monmouth Boat Club and the Rumson Country Club have always had everything their own way. The new argument between the keel boats, represented by the Stars, and the centerboarders, which have always ruled Jersey coastal waters and which received their first real competition last year when the Barnegat Bay Star Class Fleet was formed, isn't settled in favor of the keel users, however, for the Belmar Yacht Club will add a fleet of some fifteen Barnegat-type centerboarders on the Shark River.

For cruisers, the permanent opening of Manasquan Inlet, now practically assured for this year, will be the year's biggest boon. This will open up the 120-mile inland coastal waterway to owners of moderate sized boats from the north, giving an entry only twenty-six miles south of Sandy Hook, the only all-weather harbor in the seventy-three-mile stretch from Sandy Hook to Little Egg Inlet. This project should greatly stimulate cruising in Jersey.

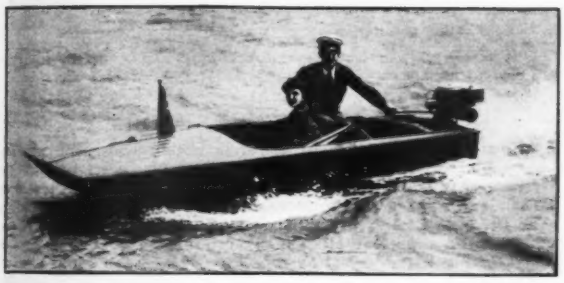
The schedule of the Racing Association of South Jersey Yacht Clubs and the Atlantic Coast Mariners' Association will be found elsewhere in this issue.

(*Continued on page* 136)

A BOAT for EVERY MAN



Model 18 has proved herself one of the most popular and effective of the Sea Sled Fleet. Here is an 18-foot Outboard Express Cruiser, equipped with sliding, demountable cabin, kitchenette, toilet and sleeping accommodations for two; the whole making a wonderful amount of boat at the price.



Model 14 has a longer deck than usual in a craft of the size, and consequently affords increased storage space for dunnage, extra gasoline supply and equipment. Her seating arrangement has been redesigned and improved, and she is an extremely attractive and able little craft.

Little Model 13, the smallest Sea Sled built, is the safest fast craft for youngsters yet designed. With Class B motor she is also the handiest boat of her inches for campers, fishermen or hunters. She will carry 6 at a pinch, is extremely fast and is able to the last degree.

THIS year at the Motor Boat Show, Sea Sled distributed 10,000 leaflets which named two dozen good qualities any man's boat might have.

A ruled column down the center of the page was reserved so that the man himself could list these qualities in order of first importance to him.

Most of the lists which the public filled in gave first place to *safety*, followed by *endurance*, *dryness*, *comfort* and *speed*—almost invariably in that order. Now those qualities happen to be the ones for which Sea Sled has always stood supreme, and for this combination Sea Sled has never had an equal.

Today you can get a little Class B outboard Sea Sled for as low as $150. That's just the bare, stripped hull, of course. At an increasing price range there are ten stock models with a foot or two difference in length, up to 28 feet over all.

Among them are the two smartly new models, "17" and "20". Completely equipped with inboard engines, self-starters, and reverse gears, for the man who has grown restless with outboard motors, they are the last word in luxury, comfort and speed.

Larger than the "28" are the special models. The 32-foot "standard" which has done 37 miles an hour with 24 passengers; and still larger, the huge marine bus which will transport 60 people at better than 30 miles an hour and at an economical rate for gasoline.

The most remarkable feature of Sea Sleds is their ability to carry weight at speed. The 32-foot "standard" with two passengers will make over 40 miles an hour. The addition of 22 more passengers cuts down the speed only 3 miles an hour.

These are tried models, tested and proved by engineers, corporations, flying fields and governments. Wherever weather conditions are hard, or a combination of speed and endurance is called for, there the Sea Sled, regardless of size, excels.

THE SEA SLED CORPORATION

Sole Licensee under Hickman U. S. Patents

226-228 Fourth Ave. at 19th St., New York

All Prices F. O. B. Yards at W. Mystic and Groton, Conn.

Dealers everywhere can profit by the unequaled reputation achieved by Sea Sleds. These able craft, not only sell themselves, but they help to sell other marine merchandise as well, and out of the long list of stock models an alert dealer can practically fit any man to the craft exactly suited to his needs.

TRADE-MARK REG. **SEA SLED** U. S. PAT. OFFICE

SPEED . . . . WITH COMFORT AND . . . . SAFETY

The girl in the sun looks down on her rivals, the brilliant Searchlights made by The Carlisle & Finch Co. The inky darkness about your boat is stabbed with a piercing white ray of light.

Send for Catalog I—incandescent. Catalog A—arc.

THE CARLISLE & FINCH CO.
261 EAST CLIFTON AVE. CINCINNATI, OHIO

AQUA-PRESSOR

A combined air compressor and pump unit of rugged construction and many uses. Furnished with either 32 or 110 volt motor. Can also be had with compressor only. Manufactured by the makers of Hi-Duty Direct connected pumps.

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For Storage of
GASOLINE, OIL or WATER
Made to Order

No matter what your tank problem, we are ready to meet your requirements for special shaped tanks in galvanized steel, Monel metal or copper. Our engineering department will be glad to assist you. Also a large supply of standardized tanks in many sizes carried in stock for prompt shipment.

RUDDERS, STACKS, SPECIAL WORK
GALVANIZING

L. O. KOVEN & BROTHER
Incorporated
154 Ogden Avenue Jersey City, N. J.

YARD AND SHOP

(*Continued from page* 134)

SPRING MEETING OF THE M. V. P. B. A.

The spring meeting of the Mississippi Valley Power Boat Association has been called by President Gordon C. Gillies for Sunday, April 27, at the Navy Pier of Chicago. This date brings it within the period of the Chicago National Boat Show which runs from April 25 to May 3. Several bids for the staging of this year's annual regatta of the association will be considered at this meeting. Last year the regatta was divided into two sections which were devoted mainly to outboard events. This arrangement was more or less unsatisfactory to some of the clubs registered in the association and accordingly this year's regatta will be more in the nature of the earlier ones, with events for all types of hydroplanes, runabouts and cruisers. Invitations for the choice of the course have already been secured from Madison, Indiana; Chautauqua Lake, N. Y.; Houston, Texas, and Paducah, Kentucky.

Jonathan III, powered for dependable and economical performance with a 92 h.p. Buda M.A.N. marine diesel

FAITHFUL DIESEL PERFORMANCE

Just another instance of the remarkably consistent and dependable performance which Buda M. A. N. Diesel Engines are rendering everywhere in the hands of many satisfied users is found in some enthusiastic comments made by Captain James E. Price in a letter to the Buda Company. Captain Price is the skipper of a 55-foot Humphreys cruiser owned by H. Barber and in his letter he states that the Buda diesel made a most remarkable record throughout the season. The boat was put in service last spring and was used constantly throughout the season including several cruises of considerable length. Captain Price's 13 years' experience with all kinds of diesels entitles him to be considered an authority on the subject and he states that in those years the results secured from the Buda in last season's operation was by far the most satisfactory. During the course of the entire season there was no outlay whatever for maintenance costs or repair expenses. Lubricating oil consumption was so low that Captain Price classifies it as most unusual, and fuel consumption averaged approximately 5¼ gallons per hour, using 28 to 32 test Baume fuel. In that time not one fuel injection nozzle clogged or required cleaning and the engine was absolutely free from smoke and soot at all times. Invariably the engine started at the first touch of the button, and this despite the fact that the intake manifold was unequipped with any sort of pre-heating device.

AUTOPULSE NAMES NEW YORK DISTRIBUTOR

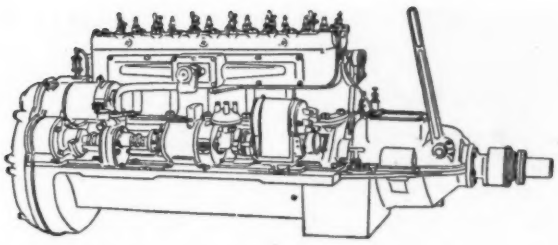
The Autopulse Corporation of Detroit, Michigan, manufacturers of the Autopulse Electric Fuel Pump, have made announcement to the effect that, after March 1, the P. J. Durham Co., of 244 West 49th Street, will act as Autopulse distributors in the lower New York territory.

WEST COAST MARATHON IN JUNE

Among the major boating events recently announced among West Coast activities, is the Seattle to Prince Rupert Marathon which has been scheduled for a start June 20, 21 and 22, finishing at Prince Rupert June 24. Subsequent to a brief stop at Prince Rupert a further race is planned which will take the contestants to Ketchikan, Alaska, but this as yet is merely a tentative arrangement and details have not been worked out. Contestants in the Prince Rupert Marathon will be afforded ample time to return to Victoria by July 1 which is the scheduled time for the opening of the Pacific International Yacht Association Regatta.

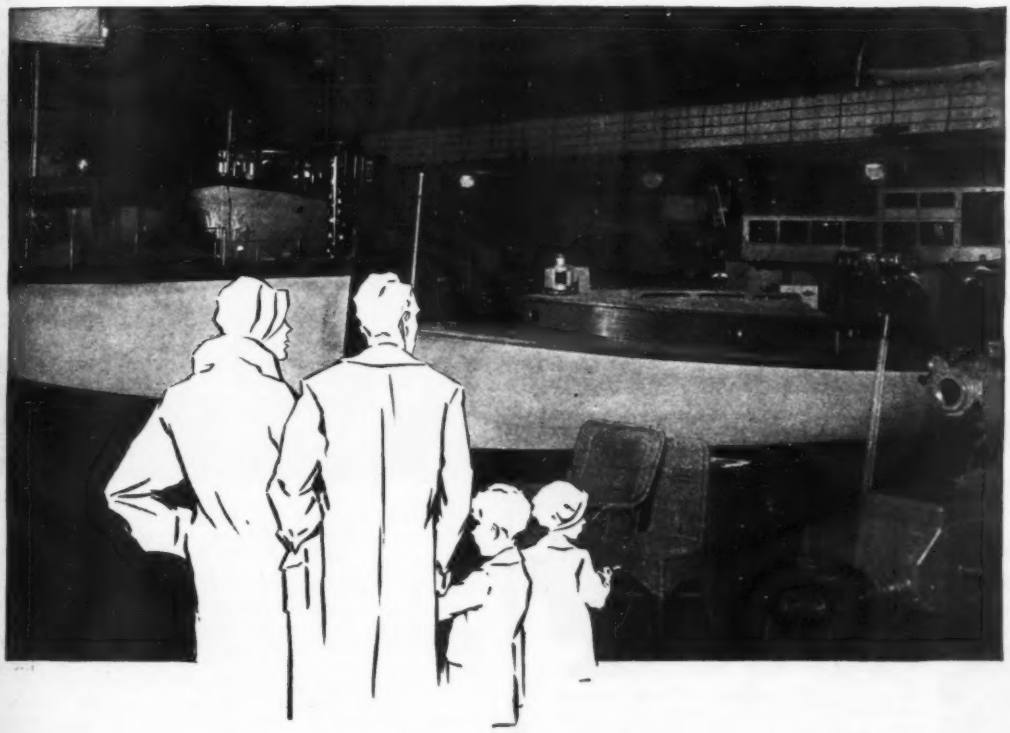
(*Continued on page* 138)

Advertising index will be found on 3rd last page.



Pick the Hull that fits your needs

but . . . be sure the engine in her is a Palmer



There is a Palmer Engine for every type of boat. And boat builders everywhere are glad to install this power unit, because they know from past experience that it cuts service to a minimum.

Buy the standardized boat that fits your needs . . . but insist on a Palmer Engine and a Palmer Clutch.

PALMER BROS. ENGINES, INC.
Cos Cob **Conn.**

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THE PALMER LINE

YT1—1-cylinder	2 h.p.
PNR1—1-cylinder	6 h.p.
PNR2—2-cylinder	12 h.p.
PNR3—3-cylinder	18 h.p.
PNR4—4-cylinder	24 h.p.
ZR1—1-cylinder	7 h.p.
ZR2—2-cylinder	18 h.p.
ZR3—3-cylinder	30 h.p.
ZR4—4-cylinder	40 h.p.
F2—2-cylinder	18 h.p.
F3—3-cylinder	25 h.p.
F4—4-cylinder	35 h.p.
F6—6-cylinder	50 h.p.
NK2—2-cylinder	25 h.p.
NK3—3-cylinder	35 h.p.
NK4—4-cylinder	50 h.p.
NK6—6-cylinder	80 h.p.
Little Huskie—4-cylinder	15 h.p.
Power-Boy Six—6-cylinder	40 h.p.
P. A. L.—4-cylinder	25 h.p.
Green Witch—6-cylinder	150 h.p.

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MARBLEHEAD ANTI-FOULING GREEN BOTTOM PAINT

Saves Its First Cost Many Times Over

because it covers twice the Surface, lasts a long time, and is the most effective Bottom Paint produced.

"The highest grade product that can be used."—JOHN H. WELLS, Inc.

"Gives perfect satisfaction."—THE MATTHEWS COMPANY.

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"We are satisfied with the results obtained from this remarkable paint."—HENRY J. GIELOW, Inc.

"Unable to find anything that will stand up as your paint does."—GEO. LAWLEY & SON, CORP.

STEARNS-McKAY MFG. CO.
Marblehead, Mass.

LOBEE CIRCULATING & BILGE PUMP

You can't get a better or more reliable pump than the Lobee because there isn't a better one made. It has been the World's Standard of Pump Quality for 25 years. No other pump has proven so popular in the marine trade. Simple, compact, noiseless and positive. These pumps will outwear the engines to which they are attached.

Gear and Rotary Pumps from ⅝" to 1½" suction and discharge. Different designs for various types of drive and mounting made to order.

Write today for catalog and prices.
Sold by Leading Dealers Everywhere.

Lobee Pump & Machinery Co.
1790 Niagara Street, Buffalo, N. Y., U. S. A.

ALGONAC BOAT HOISTS

IF you have a nice boat, why not keep it nice with one of these Hoists? You will be more than pleased with this easily operated and substantial hoist.

$140.00 to $300.00

Fully Guaranteed

Monnier Bros., Inc., Algonac, Mich.

YARD AND SHOP

(*Continued from page* 136)

NEW LIGHTSHIPS DIESEL POWERED

The first lightship in the world to be equipped with diesel-electric power was delivered a short time ago to the U. S. Bureau of Lighthouses by the builders, the Albina Marine Iron Works, Portland, Oregon. The new ship is now in service on the West Coast at Blunts Reef, 150 miles north of San Francisco. Two sister ships of this boats are now under construction by these same builders and three more are to be built at Charleston, South Carolina, by the Charleston Dry Dock & Machine Company.

All six of these boats will be completely powered with diesel-electric machinery, the main power plant consisting of four generator sets each of which comprises a four-cylindered air-injection Winton-diesel engine, direct connected to a 75-k.w. General Electric generator turning at 450 r.p.m. The main motor is direct connected to the propeller shaft and is rated 350 h.p. at 300 r.p.m. Winton air-compressors; fuel oil service pumps, and fire, deck and bilge pumps are included in the ships' auxiliaries.

The principal dimensions of the ships are as follows: length overall 133 feet, beam 30 feet and draft 13 feet, 3 inches. The trial trip showed that the Blunts Reef ship was able to exceed her contract speed requirements and further that her propelling machinery made her exceptionally handy in maneouvering and in operation.

Lightship No. 100 is the first to be diesel-electrically powered. Main and auxiliary machinery has been supplied by the Winton Engine Company

DART APPOINTS WEST COAST MANAGER

An announcement of interest to Pacific Coast yachtsmen was made recently by Dart Boats, Inc., of Toledo, Ohio. Sherman Hayes, well known to the automobile trade on the Pacific Coast, has been appointed Pacific Coast Manager for the company, his territory including the eleven western states.

"The Pacific Coast is rapidly coming to the front as a factor in the boat industry. This is particularly true because of the fact that boats are usable the year 'round and because of the excellent natural harbors which are found from Puget Sound to San Diego. In the Los Angeles district many of the 1926 speed records were made. A number of Yacht Clubs are making extensive improvements to care for members' requirements. The three main Pacific Coast cities, Seattle, San Francisco and Los Angeles, are holding motor boat shows in the Spring and it is expected that they will attract many new converts to the boating fraternity," said Mr. Hayes.

NEW SEA-GOING DECK EQUIPMENT

This year the American Engineering Company, at the Silver Anniversary Motor Boat Show, announced a new line of yacht windlasses, their type T. Windlasses of this line have tremendous power and are built into sea-going housings. They are, as is usual with A-E-Co machinery, trim in appearance and mechanically compact.

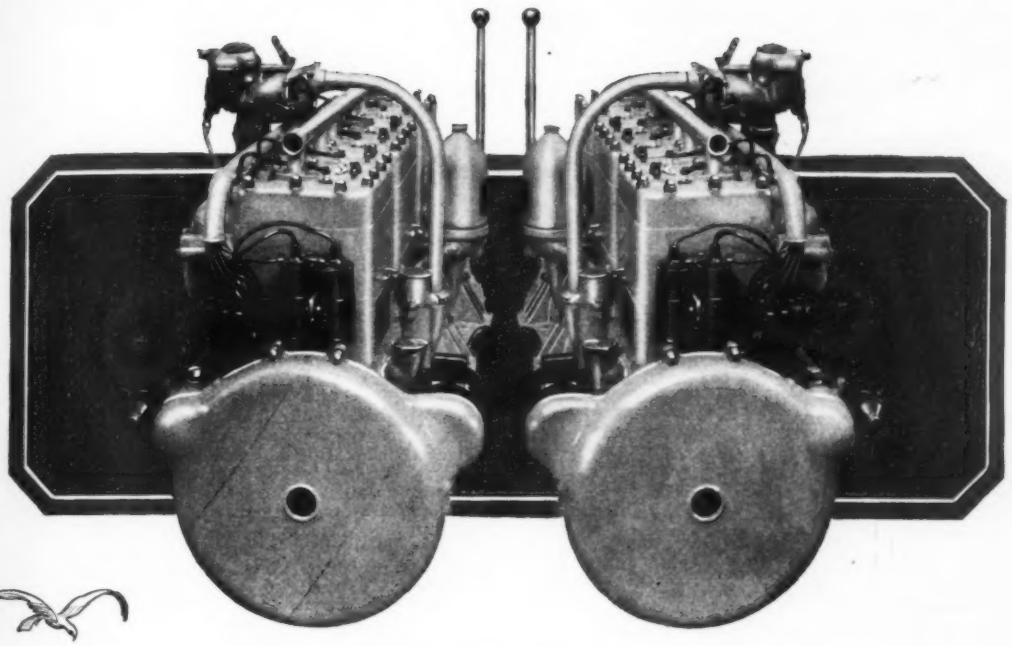
The wildcats are close centered so that the windlass may be placed in the bow without crowding the space. Hand operation is, of course, provided for. Other features are large brake bands, sealed oil baths for all gearing and accessibility of the motor.

Sizes 2, 3, 4, 5 and 6T handle from ⅜ to 1-inch chain.

These windlasses can be furnished with two heads annd two wildcats (standard), one head and one cat or two heads and two cats. The two wildcats can be operated separately or simultaneously.

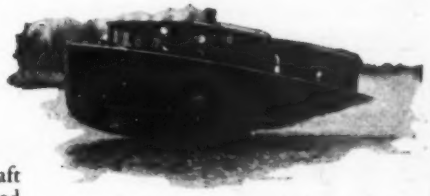
(*Continued on page* 140)

Advertising index will be found on 3rd last page.



SCRIPPS TWINS

for better performance and more dependable operation



Chris-Craft 34-foot Custom Commuter, one of the hits of the New York Show, powered by SCRIPPS Twins.

In every detail of construction SCRIPPS Twins strike a new note in dual power plant design.

At a single glance the novice or he who is "motor-wise" senses in the SCRIPPS Twins a perfectly matched, superbly balanced and highly efficient team; each fundamentally attuned to function in true harmony with the other; both alert, eager and readily responsive to the will and demands of the operator.

The skill and foresight of the engineer are evidenced in the compactness and refreshing simplicity of their respective assemblies.

Neither one is a makeshift of the other. From their deep, well trussed crankcase to the tip of their down-draft carburetor each is individually patterned to best perform and survive under the strains and stresses peculiar to its rotation. The firing order of each motor is identical—1-5-3-6-2-4.

Quick starting, smooth operation at all speeds, responsiveness to every manipulation of the throttle incite the admiration of experienced yachtsmen and veteran boat builders.

SCRIPPS Twins are available for prompt delivery in five distinct power ratings—100 H. P., 125 H. P., 150 H. P., 175 H. P., and 200 H. P. per unit—for medium duty and high speed service. They are fully described in an attractive booklet which will be sent on request.

SCRIPPS MOTOR COMPANY, 5819 LINCOLN AVENUE, DETROIT, MICH.

The wide acceptance of SCRIPPS motors is best expressed by the ever growing list of standardized craft offered with SCRIPPS as standard or optional equipment.

BANFIELD
6 Models
CHRIS-CRAFT*
6 Models
CORSAIR "36"
GAR WOOD "40"
HACKERCRAFT*
KING SEASKIFFS
KYLE "43"
MATTHEWS*
MINETT-SHIELDS
NORTH STAR
ROBINSON SEA GULL
(*Twin Installations*)
SEA LYON "40"*
STEPHENS
WHEELER "PLAYMATES"*

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BRITISH POWER BOATS
OSBORNE-CRAFT
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CLAUS-CRAFT (GERMANY)
DESPUJOLS (FRANCE)

*Optional

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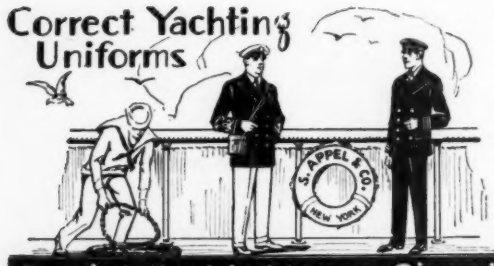
THE MOTOR THAT CROSSED THE ATLANTIC



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Serving the Yachtsman Since 1856

ALMOST THREE-QUARTERS OF A CENTURY

Over this long period of time we have served thousands of discriminating and exacting American Yachtsmen, among them owners of the largest and most famous yachts afloat. We are recognized as *Headquarters* for authentic regulation Yachting Apparel and Club Insignia.

■ ■ ■

Whatever you may need for yourself, your officers and your crew, we can supply. Our service is *prompt*, yet absolutely thorough and reliable. Let us send one of our specially trained representatives to consult with you, or write for complete Yachting Catalog.

S. APPEL & COMPANY

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QUALITY—SERVICE—CORRECTNESS

15 HR TO 240 HP — $480.00 TO $2800.00

POWERED BY Buffalo

A Symbol of Dependable PERFORMANCE

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Hundreds of owners are proclaiming their dependability, economy and service.

Literature upon request

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KROH TOPS and BOAT CUSHIONS

KROH one-man tops are designed especially for boats of the finest materials—waterproof, rust proof and sun proof. They are used on such leading boats as Chris-Craft, Hacker Dolphin and Gar Wood runabouts. Standard, de luxe and custom models. Write for illustrated folder.

Also Manufacturers of Spray Hoods, Life Preservers, Cushions and Pillows.

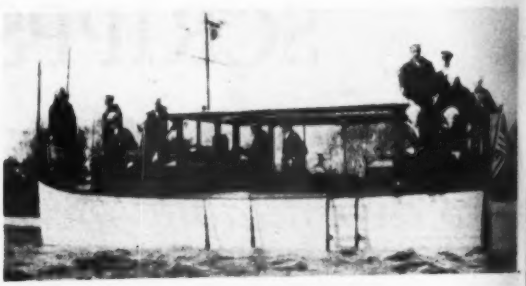
C. Z. Kroh Mfg. Co., 1920 Linwood Ave., Toledo, O.

YARD AND SHOP

(*Continued from page* 138)

SEGRAVE'S B. I. T. CHALLENGER

Once again Major Segrave of England will endeavor to wrest from the United States the British International Motor Boat Trophy, symbolic of world supremacy in speed on the water, which was won at Cowes by the United States in 1919. Since that time Great Britain has speent approximately £250,000 in the construction of challengers for this historic trophy. It is expected that this year's contest will develop into one of the most interesting and spectacular speed events ever staged and elaborate plans are being made by Major Segrave for the construction of a craft which is calculated to be able to return the trophy to England. The new boat will be built at the yards of Messrs. Saunders, Roe & Co. at Cowes, Isle of Wight, in a walled-in inclosure, where, as soon as the engines arrive, a guard will be posted. It is expected that the boat will be completed and launched next May and trials undoubtedly will be held at Lake Windermere. It is estimated that the competing boats will have a water speed in excess of one hundred miles an hour, delivered by motors which develop in the neighborhood of 4,000 horsepower. Remarkable things may be expected when this tremendous power is loosed in a comparatively light hull no longer than 38 to 40 feet and Major Segrave estimates that along the straightaway his hull will be in actual contact with the water possibly only one-third of the distance. One of the major problems to be solved is the successful control of the boat in making the turns at this terrific speed and it is understood that the English challenger has incorporated into its design lines which will permit of taking the boat around the turns at a 75-mile clip. The design has been worked out by Fred Cooper, a young British engineer who, together with Hubert Scott Paine, was responsible for the design of Miss England, last year's contender.



Bantam II, a Richardson Cruisabout used by a Chicago Post of the American Legion for meetings and general good times, as well as for the instruction of Jackson Park Sea Scouts

MISS CARSTAIRS PREPARING NEW B. I. T. BOAT

A few of the details in connection with the new speed boat being built by Miss M. B. Carstairs as a challenger for the British International Trophy are now available. Estelle V, as the new craft will be christened, will be a single step hydroplane designed along more or less conventional lines, 28 feet in length with a beam of 8 feet, 8 inches. The power plant consists of a pair of Schneider Trophy type super-charged Napier Lion engines, rated at better than 1000 brake horsepower each. As they will be installed in the boat, they will drive forward through a gear box and vee drive with the r.p.m. stepped up so that the wheels will turn considerably faster than the motors. The starboard gear box will have a reverse drive in order that the wheels may turn in opposite directions.

Mr. Hawker, who was responsible for the design of Estelle IV, has also prepared the lines for the new challenger. Important constructional details of course will not be divulged at the present time but it is known that in one particular at least the new craft departs from the lines of her predecessor in that the after chine will be square instead of rounded. Delivery of the Napier Lion engines is expected in May and the probability is the boat will be completed the following month. Meanwhile work is going forward on the reconstruction and improvement of Estelle IV and the engines are being overhauled in the shops of their builders. Certain modifications have been made in the lines and approximately half a ton of weight has been removed from the hull. In the event that there are not more than three challengers from Great Britain this year, both the Estelles will be shipped to Canada in June for trials on Lake Ontario; otherwise, elimination trials will probably be held in England.

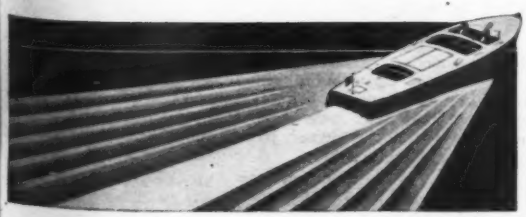
(*Continued on page* 142)

"COME ON, LET'S GO!"

Will there be a Gar Wood at your wharf this summer? It's time now to think of how much such a boat will give to your play-days, to the delight and comfort of the whole family.

Every Gar Wood boat is kin to the famous Miss Americas. Designed and built by the very same craftsmen.

Poised, eager to go, your Gar Wood answers every whim. Ready to whisk you over limpid moon-lit waters, to slip cleanly through the chop, to soar over the long swells, with the gale or in the eye of it—with equal nonchalance. All 12 of the new Gar Wood models are delightful performers. The variety of types, open and closed, and including the fastest stock boat built, assures you of just the sort of craft you can enjoy to the utmost. You will be interested in the details. Your request will bring a handsome booklet post-haste.



Twelve New Models—30-55 m. p. h.
$3,150-$12,950

GAR WOOD INC.

THE GREATEST NAME IN MOTORBOATING

212 River Road
Marysville, Michigan

Factory Branch
1860 Broadway, N. Y. C.

What boatmen have been waiting for!

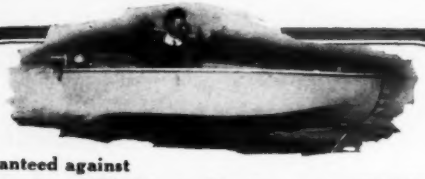
The DEBASCO knockabout and yacht tender

All mahogany, double planked and strongly built. Length 18 ft. Beam 62 in. Freeboard 27 in. Universal 4 cyl. 45 h.p. motor. Speed 30 miles an hour. Nickel silver hardware. Self starter. Electric lights. Heavily padded Russaloid cushions with springs.

DEBASCO BOAT WORKS, Inc.

Philadelphia office N. E. Cor. Jasper & Willard Sts.

Plant Leesburg, N. J.



Guaranteed against

Blistering, Flaking, Peeling or "ROT"!

Add to superior design and construction a finish which is guaranteed not to flake, peel, blister or "burn" and you have an idea of the 1930 PENN YAN Dinghies! Half the weight of wooden boats after a few weeks of service . . . faster, easier to handle and smoother under way . . . require no care, no caulking, and never leak! Whether it's a moto-dinghy, sailing dinghy or rowing dinghy, if it's made by PENN YAN it is the finest dinghy value offered today. Write for our illustrated folders on PENN YAN Dinghies and PENN YAN Racing Craft.

PENN YAN BOAT CO., Inc.

188 Water St. Penn Yan, N. Y.

PENN YAN DINGHIES

BRANFORD

IMPROVED

STEERERS CONTROLS and FITTINGS

For Outboard and Inboard Runabouts

Quality Equipment for the Better Boats

Write for particulars to

MALLEABLE IRON FITTINGS CO. - - Branford, Conn.

Eastern Distributers: E. J. WILLIS CO., 85 Chambers St., New York

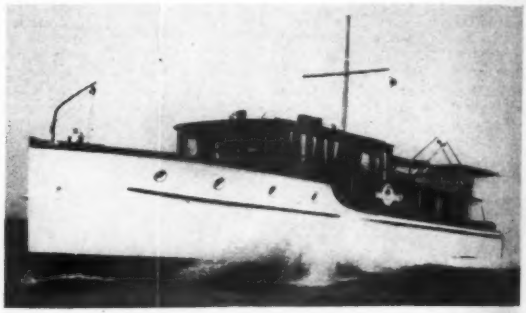
YARD AND SHOP

(*Continued from page* 140)

INTRODUCING A NEW CRUISER LINE

Occasionally we run across a cruiser which makes an instant appeal, regardless of the standard by which we judge it—so wholesome and well proportioned is it that we are unable to take exception to any detail of its make-up. That criterion may be seaworthiness, rugged construction, pleasing lines, speed, comfort, or any other of a multitude of qualities which we have a right to expect in a really fine cruiser. Such a craft is the new Kyle cruiser, offered by S. Clyde Kyle, 1775 Broadway, New York City.

Kyle cruisers are offered in a range of four sizes—34, 43, 47 and 50 feet—a range which provides a model in the cruiser class suited to the requirements of any yachtsman. The 50-footer in particular is a remarkable craft; one that embodies those shipper characteristics that instills confidence in its ability on the open sea. Inherently powerful lines, choice materials and honest construction justify that confidence and prove time and again that it is not size alone that makes an able boat. The smaller models in their respective size classes are fit companion ships to the 50-footer, offering within the limits of their dimensions a maximum of livable and usable space, so that even in the 34-footer one finds generous cruising accommodations for a party of four, and, if necessary, as many as six.



The Kyle 50-foot standardized cruiser is a fast and comfortable boat

KYLE TO DISTRIBUTE CORSAIRS

Announcement has been made to the effect that S. Clyde Kyle has been appointed Metropolitan representative for the distribution of Corsair 30-and 36-foot stock cruisers. Mr. Kyle's offices are located in the General Motors Building, 1775 Broadway, New York City.

PRODUCTION DOUBLED ON NEW EIGHT

Although introduced only a few weeks ago at the Silver Anniversary New York Motor Boat Show, sales on the new Chrysler Straight Eight, 150 horsepower Majestic marine engine, the latest to be added to the Chrysler marine engine line, have exceeded all expectations for the first quarter of this year, according to H. E. Fromm, Sales Director of the Marine Engine Division of Chrysler Corporation.

Enough orders were received on the floor during the show itself to warrant the increase in February and March production to more than twice that estimated for this period.

Several of the most prominent motor boat builders in this country will use the new Majestic as standard equipment on their craft. Included in this list are Chris Smith's Chris-Craft, Gar Wood's boats, Corsair Cruisers, Lyon & Tuttle's Sea Lion, the Sea Sled, Banfield's Sea Skiff and Wheeler's Playmate.

In addition to these builders, several custom-built motorboat manufacturers have signified their intention of using the new Chrysler Straight Eight power plant in their new models.

The addition of the Majestic to the line makes the 1930 Chrysler Marine Engine group the most complete that it has ever offered. The Majestic fills the need felt for many months by Chrysler marine engine fans who desired an eight-cylinder motor for their craft.

The new Majestic is also available with the Chrysler built-in 2 to 1 reduction gear for use in large cruisers which require a slower propeller speed.

The famous yacht Katia, which last year was equipped with two Chrysler Imperial engines with reduction gears, is now being outfitted with two new Majestic Straight-Eights with reduction gears, the owner having taken an immediate fancy to the new marine engine.

(*Continued on page* 144)

Advertising index will be found on 3rd last page.

SEA BOATS

What do you want in a runabout?

IF you have been made uncomfortable in the average runabout; if the fast boats with flat surfaces pounding the water have tired you mentally and physically; if you have seen otherwise good hulls shaken apart before their time by this hard riding; if you have been pigeonholed in isolated seats; if you have been thoroughly wetted and possibly frightened in a boat without seagoing qualities; if you have paid dearly for unsound design and poor construction; if you have been dissatisfied with previous performance, then you will appreciate ACO Seaboats, designed and built for sophisticated yachtsmen.

ACO SEABOATS

THE HIT OF THE MOTOR BOAT SHOW IN NEW YORK

ACO Seaboats have more comfort. Their underbodies present no flat surfaces to pound in heavy weather. They have more freeboard; more room; more speed; more and finer equipment; more performance; more safety factors; more seaworthiness; more life for the hull and motor; and they handle easier and with more real satisfaction.

ACO Seaboats were the outstanding hit in the runabout class at the New York Motor Boat Show. The one exhibit that was different. Something to see and inspect that was truly an improvement.

Do not fail to know about ACO Seaboats. The prices too, are attractive. Write today for detailed information.

Designed by George F. Crouch and Fred Goeller

THE AEOLIAN COMPANY

Aeolian Hall, New York

Boat Building Plant, Neponset, Mass.

LONDON—PARIS—BERLIN—MADRID—MELBOURNE—SYDNEY

STAY-TITE
MARINE CAULKING CEMENT
Stops Leaks
Quickly and Permanently

STAY-TITE requires no mixing or heating. It is easily and quickly applied, permanently sealing up cracks, seams and joints. It may be applied on either wet or dry surfaces. It retains its elasticity and is unaffected by expansion or contraction of the planking and does not become brittle.

STAY-TITE is widely used on all types of water craft and is preferred to all other materials because it may be used immediately without preparatory heating.

For Emergency Use.

Keep a can of STAY-TITE on your boat. It will stop miscellaneous leaks immediately without the necessity of first waiting for the boat to dry out.

STAY-TITE may be obtained from your local dealer in cans of one-half pint and up. If your dealer cannot supply you, write us.

SIXTH CITY SPECIALTY & MFG. CO.
3109 DETROIT AVE. CLEVELAND, OHIO

ELECTRIC LIGHTS ANYWHERE

Electric Light Your Boat, Cottage, Camp or Home!

Onan Electric Light Plant $139

110 volt, uses no batteries or water, portable. Install it yourself and enjoy all those home conveniences of electricity away from home.

OTHER MODELS

Models for marine and commercial use. D.C. or A.C., 350 to 2000 watt, also 32 volt plants.

Write for our home wiring chart or boat installation suggestion. Describe the place you want to light—there is a model to suit.

D. W. ONAN & SONS
1750 Royalston Ave., Minneapolis, Minn.

Clean Your Boat . . . inside and out with this Sudsy Action Cleanser

The result of 33 years' experience in the manufacture of cleaning preparations, Silver Suds Marine Cleanser penetrates and dissolves dirt by an exclusive sudsy action.

Silver Suds Marine Cleanser is prepared exclusively for the economical and safe up-keep of the yacht and not a violent scouring compound for paint-removing purposes. It is an excellent hand soap—instantly removes engine room grease—and harmless to the skin.

USE SILVER SUDS FOR THE HULL

1 and 5 gallon wooden pails at $2.00 & $7.50. Send 50c for trial pail

SILVER SUDS
Marine Cleanser

DEALERS AND DISTRIBUTORS WANTED

SILVER SUDS MFG. CO., Philadelphia, Pa.

TOPPING BROTHERS, *New York Distributors*
139 Varick Street, New York

YARD AND SHOP

(*Continued from page* 142)

A NEW MARINE SILENCER

A new silencer for marine service has been announced by The Maxim Silencer Company, the well-known builders of noise controlling equipment. The new silencer includes all of the experience of eighteen years in building for the motor boat trade. It is claimed that it is the most important step yet made in the effort to make the modern motor boat as quiet running as the modern motor car.

The builders of this new noise eliminator are recognized as world leaders in the noise controlling field, having been supplying silencing devices for every form of power equipment from the smallest to the largest for many years. Silencers for exhausts from pipes as large as 36 inches in diameter and handling noises equal to that of artillery, have been installed on several of the large electric generating stations of the country. Silencers as small as ½-inch pipe size are supplied for small air discharges. From this wide experience The Maxim Silencer Company have designed a silencer for the modern motor boat engine, which they claim possesses the best attainable compromise of size, weight, durability, noise reduction, back pressure and price.

Owners and boat builders will be interested in some of the details of this latest production of the house of Maxim. The silencer is made of one single grey iron casting. This at one stroke eliminates the matter of leaks at joints and failure of interior parts which so often cause offensive rattling noises. Being cast iron, the question of corrosion and frequent renewal, when used in salt water service is eliminated, since cast iron is well-known to be more resistant than any other material within the price limitations set for a device of this kind.

The size of the silencer is little more than one-half the size of the previous devices for a given size engine. This combined with the extreme simplicity of the construction gives light weight, a very important factor in the modern high speed boat. The small size also assists in installing, since it can be fitted into very restricted space. This installing question is still further assisted by the fact that the new silencer has its inlet and its outlet at the ends. The inlet is in the center of one end and the outlet is at the bottom of the other end. This provides automatically for the draining of the silencer, so that unless there is a rise in the exhaust pipe after it leaves the silencer, all water will drain itself out.

Another feature of interest to the boat builder is the fact that the silencer is built to take all of the circulating water from the engine. This eliminates a lot of piping since no by-pass is required. Noise reduction is up to Maxim standards which speaks for itself, and back pressure with full water circulation is so low that the engine speed is the same whether the silencer is off or on. The most exacting tests have been made by several of the large boat builders in the East, and it is said that the coming year will see new standards of quiet running established. The name that has been given to the new silencer is Model M2. It is built in all standard pipe sizes from 1½-inches to 4-inches inclusive.

NEWSBOYS TRY SPEEDBOATING

An accompanying illustration shows a group of happy Washington newsboys enjoying for the first time a taste of the thrills to be derived from flying over the water in a fast boat. On this particular day about 350 Washington newsboys enjoyed this rare treat in four Gar Wood speedboats which were operated for this purpose by the Potomac Speedboat Corporation at Hains Point at the head of Lincoln Memorial Park, Washington, D. C. These boats last summer carried over 20,000 people, many of whom no doubt had never previously had an opportunity to ride in a craft of this description before. This one illustration alone serves to convey a fair idea of just what these water taxis are doing to educate the public into the enjoyment possibilities of this wholesome and recreative sport.

A FAVORITE IN CANADA

Casual perusal of the little pamphlet entitled Kermath in Canada reveals that the well-known Kermath marine engine enjoys a popularity in Canada equal with that which has been its lot in this country ever since it was first offered.

It is of particular interest to note that Kermath is a prime favorite, not only among Canada's yachtsmen, but also in the commercial industries where a marine power plant's reputation is based largely on its capacity for rendering thoroughly dependable day-in and day-out service, under adverse conditions if necessary—and delivering that service at a cost of maintenance that will prove its economy as an investment. Kermath engines demonstrate their ability to meet that test and accordingly are found in great numbers in Canadian fishing craft and work boats, where equipment must pay its own way.

(*Continued on page* 158)

Advertising index will be found on 3rd last page.

16-ft. 5-passenger runabout—40-H.P. Lycoming motor—speed 25 miles an hour. Price F. O. B. Works $945. Other models to $5300.

YOU CAN SELL FIVE TIMES AS MANY BOATS AS YOU SOLD LAST YEAR!

THE new Dodge Fleet was introduced quietly and unostentatiously, with no long and carefully planned campaign of preparation and promise. It is not for Dodge to say, but for those who were there to testify that the Dodge Fleet was the outstanding success at the National Motor Boat Show.

The echoes of comment still resounding in the Motor Boat Industry have been summed up by one motor boat authority who said, "Everybody knew that Dodge could and would build a fleet as fine as men and materials could make it. The only question was whether such fine boats could be built and sold in quantities large enough to permit them to be priced so amazingly low. Your great new factory and mass production methods take care of lowered costs, and at the prices you have named, the boats should sell themselves."

Like designing boats, manufacturing and selling have become a science, too. It did take confident faith and boldness for Dodge to invest millions in a vast, new plant, in an outstanding new fleet, and in an outstanding national advertising campaign. Yet Dodge *knew* how production costs could be cut by mass production. Dodge *knew* that at the new Dodge prices, the public would buy and dealers would sell as many boats as could be produced.

It is a simple matter of arithmetic. There are only a limited number of people in the country whose incomes will permit them to buy a boat from a line with a price range of $2000 up. Yet when you add another boat to that line that brings the lower end of the price range down to half what it was before, you automatically widen the market. There are not only five times, but ten times as many people in this country who can spend a thousand dollars for a boat, as can spend two thousand and more.

Dodge has produced a line of boats that will make a market of thousands more boat owners. Not only is there a new low price established, but every boat in the line gives an opportunity for greater sales through lessened prices. Now there is a completely equipped boat that you can sell at a price within the reach of the man who formerly had to be content with a bare hull and outboard motor.

You and everyone who sells boats can share in the tremendous Dodge growth that is sure and certain. Already Dodge has sold more boats than any other builder ever sold in the same length of time. The Dodge Dealer franchise is rapidly being seized by dealers everywhere. If you have not already done so, write today and see if your territory is still open, for the most outstanding opportunity offered to the boating industry today. Horace E. Dodge Boat & Plane Corporation. Works: Newport News, Va. General Sales Department, 21 W. 46th St., New York, N.Y.

DODGE BOATS

The "Versatile" 41
WHITNEY Cruiser

DEPENDABLE-SAFE-SEAWORTHY-BEAUTIFUL

NO pleasure craft designed in years approaches the new twin-screw Whitney 41 Cruiser in those features which are demanded in modern yacht construction. Always reliable, always measuring up to the expectations of the owner, it has been received by the sport-loving public with tremendous enthusiasm. Every possible comfort and refinement has been considered in the designing of this craft; it is under perfect control at all times, and it thoroughly satisfies those people who insist upon grace of line and beauty of finish.

LET US SEND YOU LITERATURE ON THIS LUXURIOUS, YET ATTRACTIVELY PRICED, CRUISER

ADDRESS DEPT. B

Whitney Woodcraft Corporation
East Hartford, Connecticut

DE LUXE YACHT LOG

For Pleasure Entries.

Keep a record with notes, sketches or photographs, the interesting happenings of cruises, fishing parties or races.

First Of Its Kind

No other log like it. Printed on heavy art paper, bound in real calf. Cover embossed with your club burgee and house flag, in gold leaf and oil colors. An artistic, durable and practical addition to your library. Grows more interesting as records accumulate.

Size 8" x 11"
Price $12.50

PUBLISHED YEARLY—Be sure and send the name of your boat, yacht club, and design of your house flag in colors, with your order.

Marine Publishing Co., Box 265, Beverly Hills, Cal.

DYER MOTORCRAFT

OUR PATENTED CONSTRUCTION IS SUPERIOR FOR

SPEED and ROUGH WATER

A Catalogue convincingly tells the story.
May we send you one?

DYER MOTORCRAFT CORPORATION
EAST GREENWICH, RHODE ISLAND

New York Representative:
J. THORNTON MILLS
801 Graybar Building **Tel: LEXington 2830**

The World's Best Built Boat.

CROSS CHANNEL RACE—DOVER—CALAIS—DOVER

By J. Sidney Cotton

A RACE from Dover to Calais and back was organized by the British Outboard Racing Club in June last in which thirty-nine boats started from Dover. Competitors were to proceed to Calais, round a mark buoy and return to Dover. The course was to be marked by speed boats placed every two or three miles, to guide the competitors and render assistance if necessary.

The da yo fhe race was windy and not very propitious, but about lunch time conditions moderated somewhat, with a visibility of about four miles. The Committee decided, against the advice of local fishermen, that the race would start, and at 4 o'clock the gun was fired and thirty-nine boats attempted to get away.

The harbor at Dover is surrounded by a wall which makes the sea swell wash back and cause a rough ripple across the entrance. As it turned out this was foutunate, because the unseaworthy boats, and there were a great majority, turned turtle and the occupants were picked up immediately by local boats.

Only two of the mark boats reported for duty, therefore competitors were left to their own devices as to how best to hit Calais. As soon as the harbor was left behind a nasty swell was encountered which caused the boats to leap out of the water if opened full out.

About fifteen minutes after starting a sea mist came up and the boats, which up to then had been running in two bunches, spread out and split up into twos and threes. It being my first race in an outboard, I decided to follow the old hands and there were seven in our batch. After running for thirty minutes we came across a rough water rip with the top of the waves breaking over. Two of the boats which were ahead of me slowed down and promptly swamped. I therefore opened full out, and hitting the first breaker, literally jumped over the next three, hitting the tops of each one a resounding smack.

The maneuver put me into moderate water again on the far side of the rip, but I could only see two other competitors on the same side as myself. There were a number of fishing smacks about so I carried on after the others.

After running for an hour and a quarter and not seeing any land, I decided to catch up to the leading boat to ask if he had a compass, as my wrist compass said we were heading for the North Pole, and the atmosphere confirmed it.

After another fifteen minutes and when I was just about to overtake the leading boat, the shear pin carried away. I was just putting a second life belt on, with a view to getting over the stern to replace the pin, when a friend stopped alongside with engine trouble, and promptly started to sink, as he was split from stem to stern, just above the step.

After considerable wangling, I managed to put in a new pin, during which time the boat was bobbing about like a cork. While the pin changing episode was going on a seven thousand ton tramp hove to and wanted to take us aboard. On being informed that she was bound to Brazil we declined the skipper's kind offer. He very sportingly stood by until our job was done and then said he would not offer to change boats with us, as he was quite satisfied with his own.

I started my motor and towed my friend's boat to a French lightship which loomed up out of the mist. Meanwhile he kept bailing her out with everything he could lay his hands on. We hoisted his boat aboard and tethered mine astern the lightship, then examined the chart and found that we were thirty miles from the nearest land with a thick night ahead of us.

For once in our lives we were delighted that the French race like a hot room to live in, as we were drenched to the skin and frozen stiff.

We signaled a passing steamer and asked them to report to Grand Hotel, Dover, that Cotton and Harrison were on the Sandette lightship. The telegram received at Dover was addressed "Cotton Harrison, Grand Hotel—Steamer Egypt reports boat with two occupants rescued Sandette lightship."

It served its purpose, however, and similar messages arrived all through a harrassing night at Dover, where wives and sweethearts tried to smile until the final competitor was accounted for. Eight boats were abandoned and the occupants picked up by tugs or yachts which had put out from nearby ports to the rescue.

One naval commander complete with navigating instruments first landed at Dunkirk, then at Boulogne, and then at Calais. Another competitor landed at Boulogne and inquired the way to Calais, then set off full or hope. He steered a good course for half an hour and brought up alongside the beach at a large town. He asked them something in perfectly good French and was told in passably good English that he was at Folkestone. He thereupon returned to Dover and started again, only to be

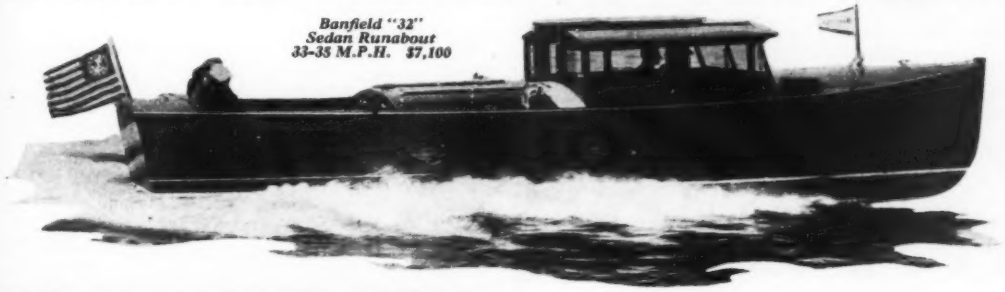
(Continued on page 148)

Advertising index will be found on 3rd last page.

Banfield

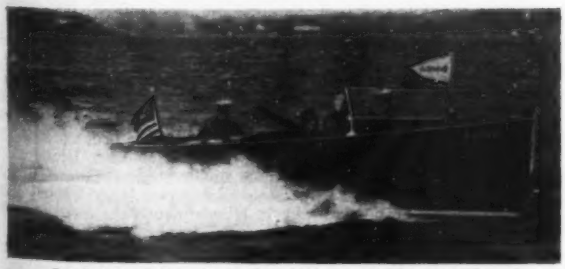
SEA SKIFF RUNABOUTS, SEDANS and CRUISERS

Banfield "32"
Sedan Runabout
33-35 M.P.H. $7,100



Banfield "32" Runabout 33-35 M.P.H. $6,500

Banfield "26" Runabout 22-38 M.P.H. $4,250 to $5,600



Banfield "22" Runabout 22-30 M.P.H. $2,750 to $3,050

RAPIDLY gaining popularity as the greatest all-purpose deep-sea runabouts—just as Banfield cruisers have held the fore-rank in the cruiser field for comfort, safety, speed and seability—Banfield runabouts have definitely established their superiority in the runabout field. With a wide selection of models, open and sedan types, and a liberal price range, you will find in these beautiful mahogany boats a craft for every service from yacht tender to express commuter.

Make a comparison — consider construction — and you'll be convinced of Banfield's superiority.

Banfield "32"
Standard Cruiser
Single and
Double Cabin

18 to 30 M.P.H.
$6,250 to $7,250

De Luxe Model
with
Forward Cockpit
$6,950 to $7,950

Write today for illustrated catalog of the Banfield Sea Skiff Fleet.

Attractive Deferred Payment Plan

BANFIELD SEA SKIFF WORKS, INC.

PLANT:
ATLANTIC HIGHLANDS, NEW JERSEY

Sales Offices and Permanent Exhibit
254 Fourth Avenue, New York City

LARGEST BUILDERS OF
SEA SKIFFS IN THE WORLD

Immediate Stock Delivery

EVERDUR
SCREWS, BOLTS, NUTS, RODS AND SHAFTING

TOBIN BRONZE
SHAFTING

Copper, Brass and Bronze
Sheets . . Rods . . Tubes

T. E. CONKLIN
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54-60 Lafayette Street, New York

Telephone Walker 7500

MEMBER COPPER & BRASS RESEARCH ASSOCIATION

YACHTING CLOTHES
FOR THE
Owner, Officers and Crew
FOR
ALL OCCASIONS

OVER seventy-three years' experience outfitting mariners insures you not only the finest in custom made uniforms, but a guarantee of correctness in every detail of our garments.

Illustrated Catalog Upon Request

B. SCHELLENBERG & SONS
Established 1857
99 to 105 Myrtle Avenue, Brooklyn, N. Y.
(Near Bridge Street) Telephone: Cumberland 0804

CROSS CHANNEL RACE

(*Continued from page* 146)

called back by the judges, who by this time had very few nerves left and had called the race off.

My own wife, who spent her early days on a wild coast in Newfoundland, chartered a runabout and by subtle argument and a bold front managed to keep the crew cruising round the North Sea half the night and all next day trying to locate me, although they were running the risk of being swamped or pounded to pieces any minute. After twenty-four hours of searching they located the lightship which we had spent the night on, just half an hour after we had been taken off by a Belgian pilot boat. The runabout passed us on the way in to Dover, and when I told the captain of our boat that the young lady was my wife, his remark was: "Mummy spank Daddy when she gets him home and no let him race no more."

He was nearly right, but I encouraged her to race herself and she carried off several first prizes in her Lightning Hull in her first three scratch races.

The Ludington Hydro hull, which I used in the Channel race, although severely buffeted about all night on the end of a line astern the lightship, suffered no damage and needed no repairs. Later, during the season at Rickmansworth, she won easily every race with a Johnson racing engine, in which she was entered, excepting the last race of the season, in which she came in second.

The Lightning Hull, which a friend of mine drove for me in the Channel race, also came through with flying colors, although she was towed in from 10 miles out with a wet engine.

SOMETHING NEW IN FRAME CONSTRUCTION

The present trend toward the use of more and more powerful power plants in relatively light hulls in order to secure the maximum speeds of which the various models are capable, emphasizes the need for advanced ideas in hull design and construction in order to enable them to stand up to the strains and stresses which those higher speeds entail.

We have grown so accustomed to the conventional type of framing in wood hulls, that is, the sawn or steam-bent frame, that the announcement of an entirely new method of framing by the Chase-Emerson Boat Company has aroused a great deal of interest. The new construction is based on airplane principles in which rigidity and light weight must be secured at no sacrifice in strength. Thin, deep members, are placed on either side of the regular frame which carries the plank fastenings, with all securely copper-riveted together as a unit. When fully assembled the frames are all tied together to secure the rigidity of a single piece and when planking and flooring have been applied, the resulting hull is as stiff as wood construction can make it on a given weight.

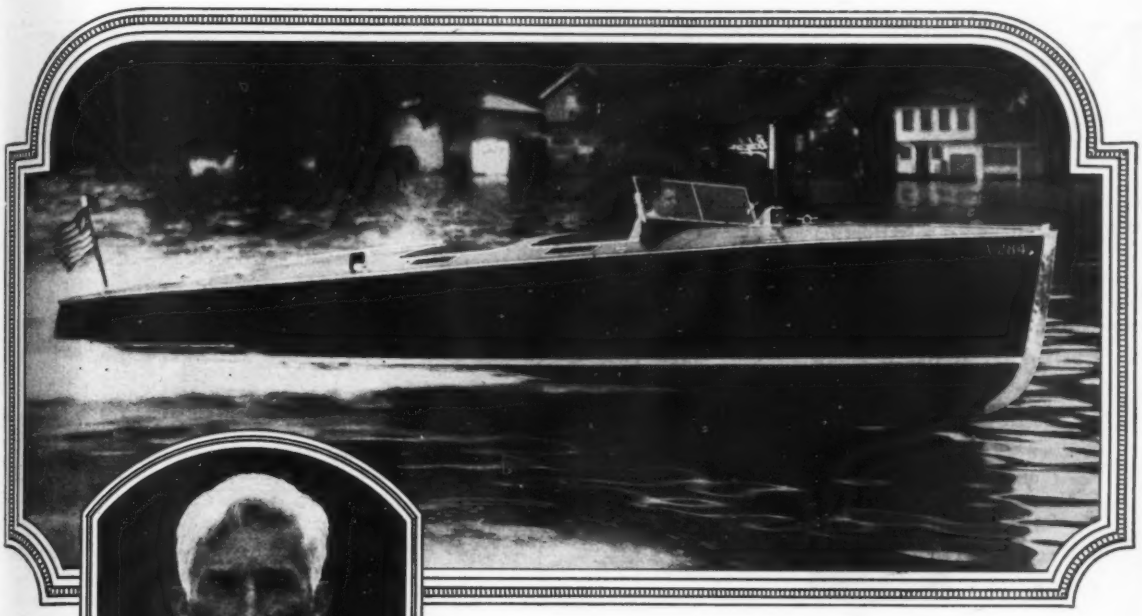
The advantages of this type of framing are many. Most obvious of course is the increased strength which adds years to the life of the boat. At the same time the reduced weight permits higher speed per unit of horsepower as well as greater economy of fuel for given speeds. The first of the new runabouts embodying this feature was exhibited by the Chase-Emerson Company at the New York Motor Boat Show where it was always a center of attraction.

DIESEL POWER FOR WATER TAXI SERVICE

The only organized water taxi service on the Pacific Coast is to be found at San Pedro, California, owned and operated by the H-10 Water Taxi Co. This company operates a fleet of eighteen speedy, modern, comfortable boats which are engaged both in running a scheduled water taxi service and special chartered trips. Each boat carries from 25 to 50 passengers with comfort, and they have speeds ranging from 12 to 20 m.p.h. While the entire fleet has, up to the present, been powered with gasoline engines, the owners have long felt that greater operating economy could be secured with Diesel power, and the first Diesel engine installations in this fleet is now being made. The engine is a Type EP, 6 cylinder Cooper-Bessemer Diesel which will power their newest boat now under construction. The type of service in which these vessels are engaged particularly lends itself to Diesel power, and it is confidently believed that the operating costs will be materially lowered.

A number of these vessels are engaged in hauling passengers on regularly scheduled trips to the Pacific Battle Fleet which anchors at San Pedro. In addition to this service the water taxis are available for special outing parties to Catalina Island, moonlight trips around Los Angeles and Long Beach harbors, and can be secured for almost any service, and the entire fleet is kept almost constantly busy. Some idea of the scope of this service can be gathered from the fact that each year this fleet carries between six and seven hundred thousand passengers in addition to large quantities of stores and supplies taken to ships at anchor and to fishing parties.

Advertising index will be found on 3rd last page.



"GAR" WOOD

All 1930 *"Gar" Wood Models* are fastened with EVERDUR SCREWS

"Everdur screws were selected for fastenings on all 1930 'Gar' Wood models on account of their having the strength of mild steel and ability to resist salt water corrosion to a greater degree than anything we have ever used. We feel that the use of Everdur screws will result in a higher quality boat justifying the additional cost. This is a feature which all boat owners, especially those who use their boats in salt water, will greatly appreciate.

'GAR' WOOD, Inc."

The American Brass Company manufactures Everdur in the form of sheets, rods, tubes and rivets. Leading fabricators are prepared to furnish screws, bolts, nuts, castings and special fittings of this high strength metal.

The trade-marks TOBIN BRONZE and EVERDUR are registered in the United States and foreign countries.

THE AMERICAN BRASS COMPANY
General Offices: Waterbury, Connecticut

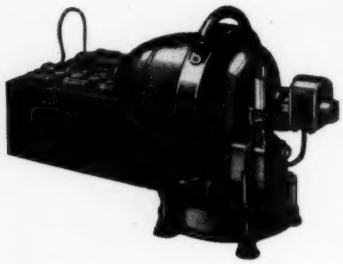
TOBIN BRONZE SHAFTING
Standard Equipment

The builders of Gar Wood boats also say: "Over a period of several years, we have been using various makes of propeller shafts and we have found that for uniformity of quality, tensile strength, and durability, there is nothing to equal Tobin Bronze Shafts."

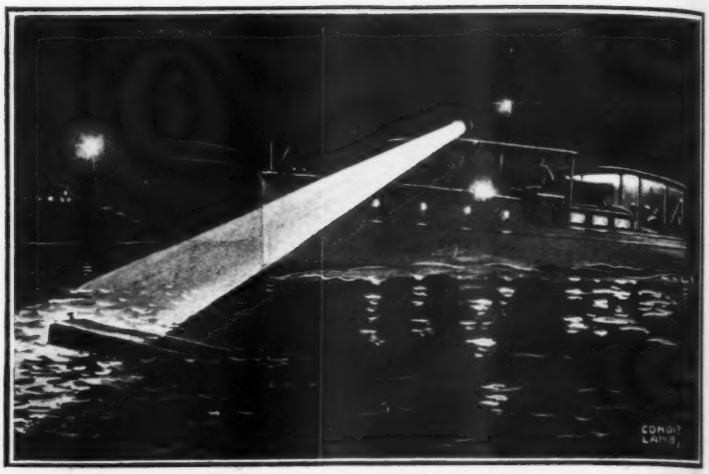
ANACONDA COPPER
BRASS ANACONDA BRONZE

No worry *here*

WHAT we don't see does worry us when cruising at night—and many a fine night is just "made to order" for boating. Get more out of your boat investment by equipping it for use at night.



Have plenty of current always there for searchlight, running and cabin lights, electric pumps, fans, anchor hoist, grills—all the electric comforts of home. It's easy to have these luxuries—a Homelite Generating Set, complete with built-in 1½ H.P. air-cooled gasoline engine stows anywhere in 14"x21"x21", weighs but 110 lbs.



It's small enough for 30-footers, big enough for 70's. The storage battery has 2500 watt-hour reserve capacity—instantly available without running the generator.

Why be without the comforts of home on your boat when having them costs so little and means so much?

$275

f.o.b. Port Chester, N. Y. including generator, battery and switchbox complete.

Write for detailed description and see for yourself.

HOMELITE CORPORATION
Port Chester, N. Y.

MIAMI BEACH REGATTA

THE principal racing event of the winter season is scheduled to take place at Miami Beach, Florida, March 25-26. The Miami Beach event in the past has ranked as one of the most important regattas of the whole year and indications at this time are that it will be fully as successful this year. Already a good number of entries have been received and with several weeks to go before the entries close, there should be well over 100 entries.

While there will be classes for all types and sizes of boats—cruisers, express cruisers, hydroplanes, runabouts and outboards, yet the feature events will be Gar Wood's effort to establish a world's record of 100 miles an hour with Miss America VIII, racing for the Governor of Florida Trophy, open to 151 hydroplanes and the annual competition for the Colonel E. H. R. Green Trophy, representing the Outboard Championship of North America. The Colonel Green race this year is open to only Division I and Division II drivers, into which divisions most of the amateur drivers fall. With amateurs driving the new 1930 motors and new 1930 boats for the first time, it is expected that the competition for the Colonel Green Trophy will be most spirited and exciting.

Already over a dozen 151 hydroplanes are entered and expected to compete. With at least one entry in this class from Cuba, it gives an International aspect to the racing.

The small inboard runabouts, which are a new development of the sport and industry this year, will be seen racing for the first time at this winter's Miami Beach regatta on March 25 and 26. While many of these types of runabouts were exhibited at the New York Motor Boat Show this winter, few of them have ever been actually tried out in the water. So their success or failure at Miami Beach during the regatta will be watched by both boat manufacturer and those who intend to purchase these small craft, if they prove successful.

As in the past the regatta will be in charge of C. W. Chase, Jr., of the Carl G. Fisher organization. Mr. Chase will be assisted by many nationally famous yachtsmen who are spending the winter at Miami Beach, including Commodores A. A. Schantz, Mark A. Hanna, George Harrison Phelps, Colonel E. H. R. Green, John H. Ware, A. I. McLeod, Odis A. Porter, O. E. Sovereign, J. P. Duffy, Dick Pope, Guy W. Ashley, Howard W. Lyon, Edward J. Noble, Steve Hanagan, Edward Grady, James Peasley, Edward Treat, E. V. Webb, H. R. Ducknwall, Paul Prigg, Gar Wood, F. P. Huckins, Jesse Jay, Dr. F. D. Felt, Dr. P. G. Becker, Major George Brown, Dr. C. F. Roche, Alan Hudson, C. F. Kotcher, Robert Oakman, O. J. Mulford, John H. Levi, Charles A. Sorensen, W. B. Selby, Walter B. Wilde, Frank Smith, Colonel G. F. Bailey, C. C. Matlock, M. Rosenfeld, Joseph Copps, Larry Smits, F. C. Benedict, C. S. Cooper, T. J. Pancoast, Charles Krom, William J. Morris, P. M. Gelatt, Ed Odette and others.

A complete list of events follows:

Event

1. Chance Race for all boats
2. Express Cruisers
3. Express Cruiser Handicap
4. Stock Runabouts Not over 55 HP
5. Stock Runabouts Not over 75 HP
6. Stock Runabouts Not over 125 HP
7. Stock Runabouts Not over 200 HP
8. Stock Runabouts Not over 250 HP
9. 151 inch hydroplanes, unlimited
10. 151 inch hydroplanes, limited
11. Outboards, Class B, Div. I & II
12. Outboards, Class B, Div. III
13. Outboards, Class C, Div. I & II
14. Outboards, Class C, Div. III
15. Outboards, Class D, Div. I & II
16. Outboards, Class D, Div. III
17. *Outboards, Col. Green Trophy
18. Outboards, Class E, Div. III
19. Grand Free for All (not open to outboards)

NOTES

*Colonel Green Trophy race open to Division I and Division II drivers only, stock motors, unlimited piston displacement.

In outboard events open to Divisions I and II drivers, boats must have weights specified by the American Power Boat Association rules, motors must be stock, and drivers and owners must not be in any way connected with the outboard trade, and must qualify as per American Power Boat Association rules.

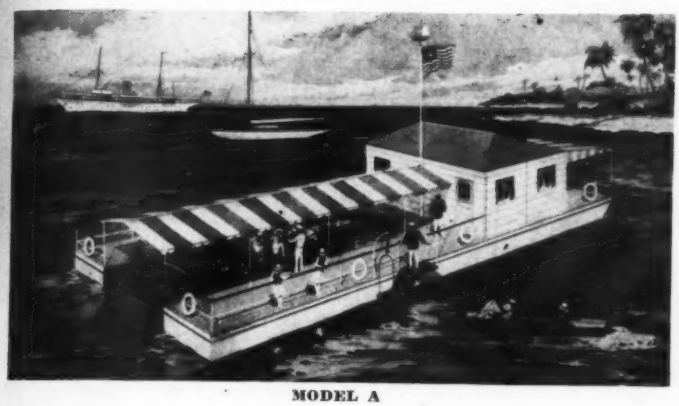
In Division III events, motors, boats, owners and drivers are unrestricted.

Division I and II drivers may not compete in events open to Division III drivers.

(Continued on page 156)

Advertising index will be found on 3rd last page.

PROTECTOR SLIP BOATS



MODEL A

The Protector Slip Boats affords perfect protection for the beautiful motor craft of to-day and is in fact a marine garage

The slip can be equipped with awnings and drop curtains or with the standing house.

Deck houses (living quarters) are optional.

Bath or locker houses can be used if desired.

Davit Frames and Cradle Bars are a valuable asset.

We build a Slip Boat to suit every individual requirement for a 16' to 30' Motor Boat.

From

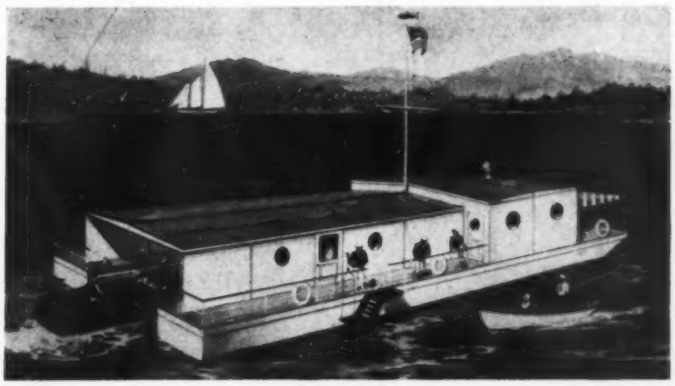
$895.00

F.o.b. Wiscasset, Me.

Upwards

The Slip Boat can be anchored in deep water or to the shore.

Write us the style Slip Boat you need and we shall be pleased to advise you.

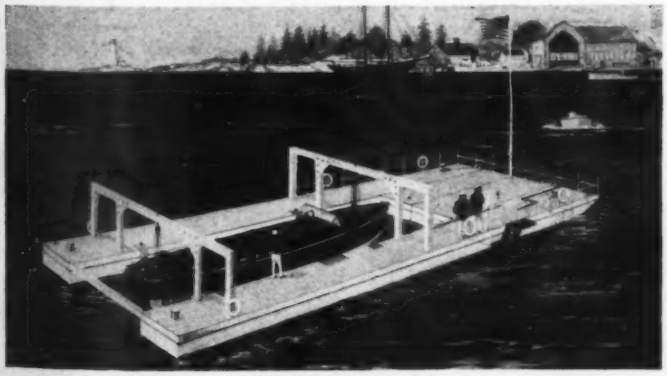


MODEL B

The

PROTECTOR SLIP BOATS, Inc.

INCORPORATED



CLUB FLOAT

Plant:

EAST BOOTHBAY
MAINE

New York Office:
Fidelity Bldg.
Lexington Ave. at 87th St.

Telephones:
Atwater 5600-5601

THE DART

Boats at the New York Show proved that our enthusiastic advance statements were well founded. More luxurious, beautiful, seaworthy—improved engines—and as always, more speed per horse power. 18½ ft., 22½ ft., 26 ft. and 30 ft. models.

Write for folio "A" for complete description of model you prefer.

DART

DART BOATS, INC.
TOLEDO, OHIO
New York Branch 17 E. 42nd St.

Advertising index will be found on 3rd last page.

Matthews, too makes tight seams that STAY tight.. *thanks to* KUHLS!

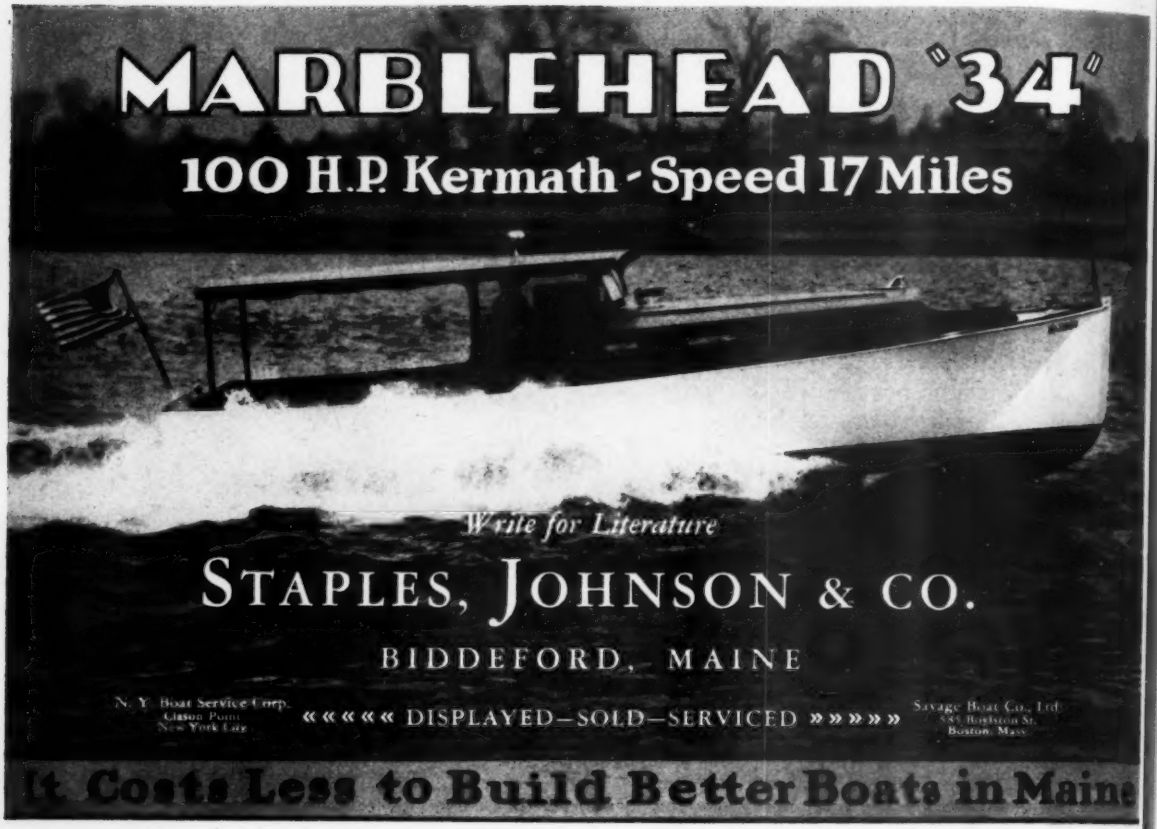
Wherever and whenever water-tight seams must be made, Matthews—like almost every other builder of fine boats—uses KUHLS. Matthews standardized on KUHLS only after tests and trials proved that once applied, KUHLS remains an actual part of the wood . . . yielding to the stress of pitching and twisting . . . but remaining water-tight in the face of the most severe conditions of tide, tempest and time!

Write for literature today. Orders sent day received. No. 1 for decks. No. 2 for hulls. No. 3 for laying canvas

H·B·FRED KUHLS

Sole Manufacturers · · Established 1889

65th Street and 3rd Avenue,.....Brooklyn, N.Y.



NEW DODGE PLANT TO OPEN MARCH 13

ALL factory records in the motor boat industry have been broken by a wide margin in the construction of the new $2,000,000 plant of the Horace E. Dodge Boat and Plane Corp., at Newport News, Va. The largest plant ever devoted to the building of motor boats will be officially opened and quality-quantity production of Dodge runabouts and cruisers started on March 13, completing a building operation unparalleled in the motor boat world.

The contracts for the construction of buildings was signed October 26 last. Four days later, on November 1, ground was broken on the 100 acre site on Hampton Roads. A storage shed fully equipped to house 500 boats was completed on January 1. A power house, equipped with Heggie-Simplex oil burning boilers which will pour 1,000 horsepower into the machinery of the main plant, was ready for business on February 1.

In the meantime, the steel framework and other details of the main manufacturing building were going forward. This building which measures more than 700 by 300 feet and contains approximately 210,000 square feet of useful floor space, has been finished and the most modern boat building machinery obtainable is being installed, preparatory to the beginning of operations March 13. The main building is of one story with concrete floors and is completely surrounded by windows on all sides and in the roof, to insure a maximum of natural light for the workers.

The architects and engineers responsible for this huge plant are the Philip L. Small Company, Cleveland, Ohio. The plant itself is being built by the Virginia Engineering Corp., of Newport News. The machinery for the construction of boats has been especially built for Dodge requirements and is being installed by its makers. The S. A. Woods Machine Company of Boston, the Yates American Machine Company of Beloit, Wisc., and the H. B. Smith Company of Smithville, N. J. It includes the very latest types of high speed wood working machinery, sanders, shapers, moulders, Datto machines, chain feed rip saws, roll feed rip saws, multiple boring machines, single and double surfacers, joiners, and a new type of band saws turning 1200 revolutions per minute.

At its opening and for the first few months until the Dodge company catches up with orders already on its books, 2,000 men will be employed in the Newport News plant, which will operate 24 hours a day in three eight hour shifts. At the same time, until all boat building operations are taken over by the Newport News plant, between 300 and 400 men will be employed in the Detroit plant. From January 1 to February 1 the Detroit plant turned out 50 of the 16-foot runabouts, 40 of the 21 footers, 35 of the 25 footers and 19 of the 28 footers. Since February 1 the production at Detroit has been six of the 16-footers per day, three and half daily of the 21 footers, two daily of the 25 footers and three 28-foot runabouts every four days. In addition a large supply of forms and parts, especially of the 16 footer, has been built at Detroit and shipped to the Newport News plant for immediate assembly after the opening on March 13. The Dodge plan provides that as the entire production of each model, successively, is taken over at Newport News this model will be discontinued at Detroit where work will be continued in building and shipping parts of the next model to Newport News. When all production is underway at Newport News the Detroit plant will be closed and sold.

At the Virginia factory the following schedule of production will be maintained until the company catches up with the present orders on its books:

16-foot runabouts—40 daily. 25-foot runabouts—5 daily.
21-foot runabouts—10 daily. 28-foot runabouts—3 daily.

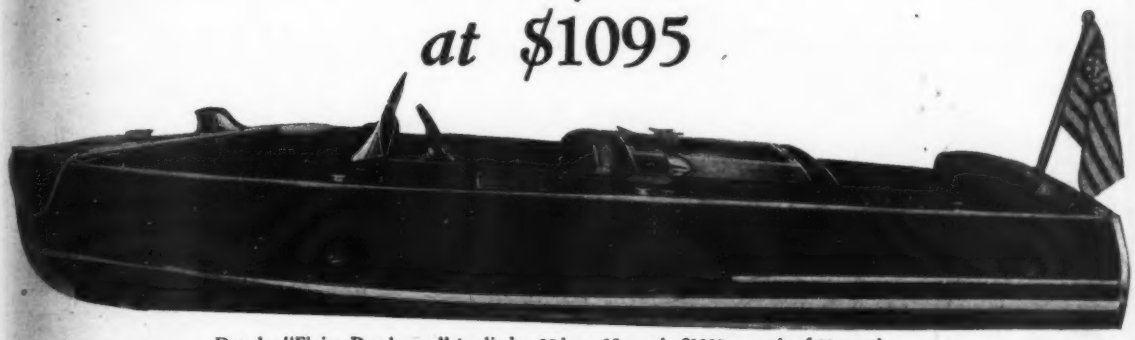
Production plans for the 45-foot twin screw cruiser have not yet been determined. The entire Detroit production to date has been gobbled up by dealers to fill orders placed at the National Motor Boat Show where the entire new Dodge line for 1931, except the cruiser, was revealed to the public for the first time.

Coincidentally with the building of the plant itself, dredging operations have been underway. When the plant opens there will be a testing basin 200 by 300 feet bordered by covered slips, and a channel 1500 feet long and 12 feet deep and 12 wide running from the plant out to the deep water. As the boats reach the end of the assembly lines they will be lifted by cranes into the water in the covered slips for preliminary tuning up, then out into Hampton Roads and on the James River where severe running tests in salt and fresh water will be given, after which they will either return to the slips to be placed in the storage shed or put immediately into cars on the company's own freight siding which will hold 100 freight cars, or they will be driven under their own power or lightered out to ships for transportation to South America, the Pacific Coast and European and Asian ports.

(Continued on page 156)

Advertising index will be found on 3rd last page.

The First and Only 17 ft. Motorboat *at $1095*



Dunphy "Flying Dutchman," 4 cylinder, 35 h.p., 28 m.p.h. $1095—result of 64 years' experience. Your order can be filled at once.

17 feet of strength and speed . . . 17 feet of flashing, graceful beauty that you're proud of in any company . . . Manhasset Bay or Puget Sound. There's a world of satisfaction in getting "the feel" of this new runabout under you, whether you've been used to a 26 foot model, or the less substantial outboard. You can bank perfectly on short turns, there is practically no vibration.

Line for line, cleat for cleat, the "Flying Dutchman" looks for all the world like a big, $3000 runabout.

At the New York Show, they said "more honest value for the money than anything at $1000" . . . "provides all the comforts, speed and convenience of a $3000 runabout for much less than half that price."

Strength? Frames, keel, stem and stern posts all selected white oak. Double framework ¾" x 3" on bottom. ⅜" planking . . . Economical? Seven miles to the gallon. Custom-built craftsmanship gives you unusual durability and long life . . . Fast? 28 m.p.h. with the Gray 4, and 33 m.p.h. with the Universal high-speed Bluejacket ($200 extra). Both are efficient, reliable motors built especially for marine use.

Being all copper and brass fastened, and carefully plugged with mahogany, the Flying Dutchman is ready to roam around for years in salt water, as well as lake and river. The planking is all African mahogany. The upholstery is expensive and durable. Windshield is shatter-proof glass. Plenty of room (beam 5'2") for five. The same dependable safety that's given Dunphy a reputation for 64 years, and more honest value for your money than you could ever buy before.

9 Unusual Features of the Flying Dutchman

1. Its safety length—17 ft.
2. Extra room around motor
3. 28 to 33 miles per hour
4. 2" extra width in front cockpit
5. Unusual width of stern—transom 54" (giving more surface on the water, better riding qualities when the boat planes up under speed)
6. Automatic self baler
7. Shatter-proof glass windshield
8. Double framework on bottom
9. Radio as extra equipment if desired.

Tune in on Your Favorite Program —on the Water

The first manufacturer to equip small runabouts with radio is Dunphy. A complete, compact receiving unit, with two simple controls on the dash, comes with the Flying Dutchman as extra equipment if desired.

If you are active and alert, if you like to give the big tubs the go-by, if, in other words, you like the idea of a smart, rakish, economical craft that's got everything a motorboat could have, get into the Flying Dutchman and step on the starter!

PERSONAL ADVISORY SERVICE

Free with 1930 Catalog

What are your boat problems? Do you want to build a boathouse for the new boat? Tell us what you need, and we will tell you what boat and equipment to use. *64 years' experience in boat-building*—and only boatbuilding—of all types and sizes of boats and motorboats, for all waters, qualifies our Personal Service Department to give you sound, reliable advice about all boats and equipment, and their care and use.

Address Department MMB.

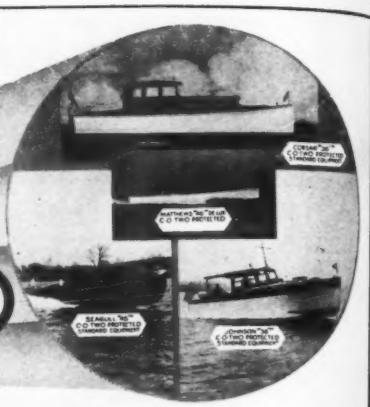
Dealers: Write.

Safety

DUNPHY

BOAT MANUFACTURING COMPANY, EAU CLAIRE, WISCONSIN

Now More Boat Builders Place the Surest of All Fire Protection at the Service of Yachtsmen



C-O-TWO

THE C-O-TWO System long recognized and used by the U. S. Coast Guard, great industrial companies, fire departments and yachtsmen, is now standard equipment on "Corsair," "Johnson 28" and "Robinson Seagulls." It is optional equipment on "Elco," "Matthews," "Banfield," "Fellows Craft" and other standardized boat builders.

"C-O-TWO Gas" is the surest, safest, quickest fire extinguishing agent. "C-O-TWO" banishes forever the frightful menace of fire at sea. So simple and quick in operation that it provides the boat owner with absolute fire protection at a cost so low as to make temporizing with other methods a dangerous economy.

"THE C-O-TWO AUTOMATIC SYSTEM" (with separate remote manual control) is the original and first automatic fire extinguishing system, employing the use of harmless C-O-TWO Gas. The equipment may be used on the smallest runabout or the largest yacht. A booklet and price list will be sent on request. Address the factory or the nearest representative.

C-O-TWO FIRE EQUIPMENT CO.

3700 Mines Ave., Los Angeles, Calif.

[REPRESENTATIVES]

NEW YORK, N. Y.
E. J. WILLIS Co.
85 Chambers St.

SEATTLE, WASHINGTON
PACIFIC MARINE SUPPLY CO.
1223 Western Ave.

BOSTON, MASS.
WALTER K. MORTON CORP.
1043-5 Commonwealth Ave.

SAN FRANCISCO, CALIF.
ETS-HOKIN and GALVAN
181 Stewart St.

CHICAGO, ILL.
MILTON G. HERBERT
Motor Boat Mart, Navy Pier

WILMINGTON, CALIF.
ETS-HOKIN and GALVAN
218 Avalon Blvd.

DETROIT, MICH.
C. T. CHENEVERT
1020 Buhl Bldg.

SAN DIEGO, CALIF.
CLEM STOSE
2nd & C. Sts.

NEW ORLEANS, LA.
ARTHUR DUVIC'S SONS
122 Charter's St.

VANCOUVER, B. C.
BOEING AIRCRAFT, Ltd.
1627 Georgia St. West

DODGE PLANT OPENS MARCH 13

(*Continued from page* 154)

The landscaping of the grounds is also underway. The factory will be surrounded by lawns and flower gardens. On the company's property there is already an excellent six hole golf course which will be used by the factory personnel at leisure hours. Running the entire 300 foot width of the building and facing on Hampton Roads, there will flash into the sky on March 13 a new electric sign, in luminous gas letters six feet high, "Horace E. Dodge Boat and Plane Corporation," which cannot fail to be seen by crews and passengers of ships from all over the world lying in the Roads.

The Dodge Company, since January 1, has issued franchises to more than 40 distributors and dealers throughout the United States and in Bolivia, Denmark and Sweden in its plan to build up a world-wide merchandising organization. The list includes not only experienced merchandisers of marine products but a large number of firms and individuals now or formerly engaged in the distribution of the better types of American automobiles. All Dodge distributors and dealers who are also merchandising motor cars are setting up entirely separate organizations to sell and service Dodge boats.

The Lycoming Motor Company, which has spent over $300,000 in the development of a complete line of marine engines, in addition to its motors for Auburn, Cord, and Duesenberg automobiles and Stinson airplanes, has set up a rigid schedule of deliveries of the 4,200 engines during 1930 for which the Dodge Company has contracted.

GUIDE FOR NAVIGATORS

A useful little handbook which should find a place in every yachtsman's library is the Mariner's Guide, prepared by the New Jersey Paint Works. The volume contains 118 pages of valuable information for seafarers and yachtsmen, including signals, bell time on shipboard, an explanation of the buoy system, chronometer and watch comparisons, dead reckoning, the distance at which objects are visible at sea, finding time of noon, handling steam vessels, line of position, how to ascertain latitude and longitude, plotting position lines, stowage of cargo, weather signals and a great amount of other valuable information. Persons desiring a copy of the Guide may address the New Jersey Paint Works, Wayne and Fremont Streets, Jersey City, N. J.

MIAMI BEACH REGATTA

(*Continued from page* 150)

Cash prizes will be offered in Division III events.

Boats without racing numbers will be assigned one by the Race Committee. No boat shall start without a racing number properly displayed.

Each event will consist of two or more heats. The exact times of start will be announced 24 hours in advance.

Copies of the outboard racing rules may be obtained from George O. Hoehn, Secretary, National Outboard Association, 333 No. Michigan Ave., Chicago, Ill.

Official headquarters: Hotel Flamingo, Miami Beach, Fla. Official boat headquarters: Fisher Boathouse.

Outboard motors must be muffled at all times, including race.

This entry blank must be filed before March 18, 1930, with C. F. Chapman, 959 8th Ave., New York (Hotel Flamingo, Miami Beach, after March 5).

THE CHICAGO SHOW

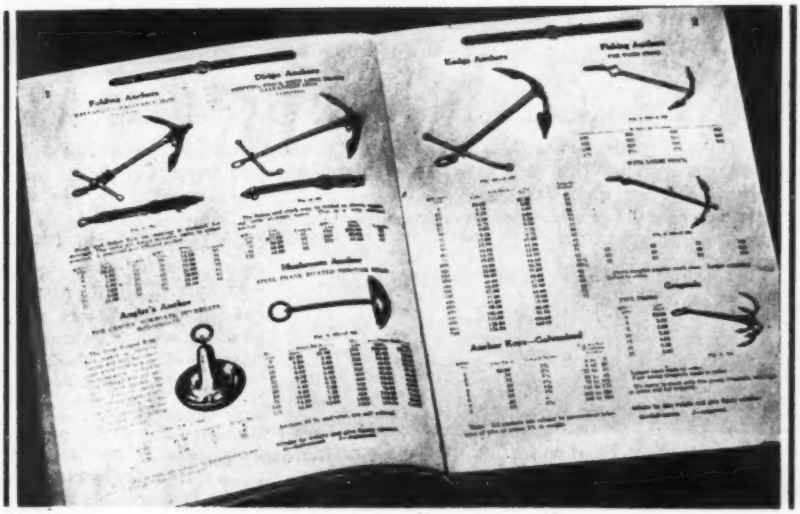
For the first time in nearly twenty years the National Association of Engine and Boat Manufacturers has granted a sanction for the holding of a national boat show in Chicago. This sanction was given by the board of directors at a meeting of the association in New York on January 25. The dates were set for April 25 to May 3 and the entire upper deck of the north wing of the Navy Pier was designated as the location. A statement was made by President Sutphen and Secretary Hand, who have visited Chicago, that the location selected afforded ideal facilities for the exposition.

Sheldon Clarke was appointed chairman of the Show's Committee with Hubbard H. Erickson, the general manager in charge of the displays. At the New York Show Mr. Erickson maintained a booth which was sought by many of the engine and boat builders with a view toward booking space for the Chicago exposition. Approximately half of the available space was contracted for at this time by these manufacturers. The space afforded by the Navy Pier is about equivalent to that used on the four floors of the New York Show at the Palace but in the case of the Chicago exposition the entire exhibit will be staged on a single floor, twenty-two hundred feet by sixty-six width. Manufacturers desirous of securing space at the Show should communicate with Manager H. H. Erickson, Navy Pier, Chicago, Illinois.

Advertising index will be found on 3rd last page.

THIS CATALOG

Free to Yachtsmen Who Have Pride in Their Craft



IT is a simple statement of fact to say that yachtsmen who are truly proud of their yachts prefer to equip them with fittings by Laughlin. You will find the Laughlin Triang-L mark of dependabilty aboard the finest craft at your club.

The new Laughlin Catalog illustrates the entire Laughlin line of Marine and Industrial Hardware . . . every article a genuine Laughlin product . . . made by the *original* makers of motor boat and yacht hardware.

We might well have called it "How to Make Yachts Perform at Their Best . . . Always!" For Laughlin Fittings will win your enthusiasm at once . . . and hold your loyalty forever.

Every yachtsman who would have his craft justify his faith in her — without worry, uncertainty or disappointment — should have this catalog. It will be sent to you upon request —without charge or obligation.

Write for it today.

The THOMAS LAUGHLIN Co.

Marine Hardware - Drop Forgings - Wire Rope Fittings

144 FORE STREET

Portland Maine U.S.A.

NEW YORK - CHICAGO - NEW ORLEANS - SEATTLE - SAN FRANCISCO - LOS ANGELES

Every Matthews Shipment Comes to You Under a

The Matthews "46" DeLuxe Double Cabin Sport Cruiser

SCOTT CANVAS COVER

MATTHEWS, through their constant development of better cruisers at less prices and more efficient production to accomplish this end, have also systematized their buying to obtain finer equipment to bespeak the fineness of their boats.

For years prior to the Matthews Stock Cruiser development of the last several years Matthews bought and used Scott Canvas Boat Covers for their shipments and for their storage. And now, with the hundreds of stock units they have produced, Scott Canvas Boat Covers go along with Matthews.

If you need a finely built, quality, waterproof cover for your boat, take a suggestion from Matthews. We will gladly quote you on a cover made especially for your boat. Address our Department M for special quotation.

For boat manufacturers we have an especially attractive proposition.

SCOTT MANUFACTURING CO.

Waterproof Canvas Boat Covers

OMAHA, NEBRASKA

YARD AND SHOP

(*Continued from page* 156)

BOAT BUSINESS BETTER THAN DURING SHOW

Since the Silver Anniversary Motor Boat Show closed in New York City two weeks ago, sales in the metropolitan area have increased beyond all records, according to showroom managers. In every case, the representatives stated that actual sales closed since the show were greater than those made during the exposition.

Many commented upon the excellent prospect lists secured and called particular attention to the new trend whereby potential buyers utilize the show as an opportunity for making comparisons which would have been impossible in any other manner.

Gar Wood reports that the increase has been as high as 350%, while Chris-Craft states that as many as six boats have been sold from the showroom in a single day. Dodge, builders of the new light runabout, has been forced to turn down distributor orders for 2,000 units on account of the heavy sales made since the exposition closed.

Frank V. Borick, builder of Fleetwing cruisers, reports that three times as many sales were made after the show closed and that his list of prospects includes 150 names of potential buyers. Elco, also cruiser builders, states the trend of show shopping and post-show buying is very pronounced this year—so much thus that the past two weeks have produced the bulk of the year's business. Howard W. Lyon, runabout manufacturer, announces a decided increase in business over a year ago.

A NEW MOTOR BOAT LANDING

Up at Mamaroneck on the Sound, N. Y., they are building the only waterfront apartment in Westchester County. It will have over an acre of lawn, a private beach with swimming facilities and a dock for motor boats. The water immediately off the beach is protected and deep enough for large motor boats and sail boats. Moorings will be provided for residents of the apartments, known as the Orienta, which will also have private bath houses, tennis courts, fireproof garage and a flock of other modern features. In other words, wherever they build apartment houses or residences on the waterfronts, architects are now considering motor boat facilities among the first things they must provide for residents.

NEW BANFIELD DISTRIBUTORS AND DEALERS

Simultaneous with the opening of their large new Sales Offices at Fourth Avenue and Twentieth Street, New York City, incidentally one of the largest in the country, the Banfield Sea Skiff Works, Inc., announce the appointment of the Tyler Company of Baltimore, as Distributors for the State of Maryland. The following dealers have also been appointed: The Marine Supply Co., Mobile, Alabama; Feuerbach & Hansen, Brielle, New Jersey; Chatfield Marine Sales & Service, Freeport, Long Island; Hall-Mulford Inc., Fairton, New Jersey, and Du Mont Marine Service, New London, Connecticut and Montclair, New Jersey. The Banfield production this year will be over three times their total 1929 output according to a recent statement by the Company. Banfield is now the largest builder of Sea Skiff Runabouts, Sedans and cruisers in the world.

A NEW MARINE SPEEDOMETER

This issue carries the announcement of a new line of marine speedometers manufactured by Irvin W. Masters. Mr. Masters has been developing and manufacturing boat speedometers since 1913, and the instruments of his new line will be called Masters' Logometers. These instruments show the speed of the boat through the water and register the distance travelled by water to approximately one-tenth mile. The Logometers may easily be adjusted to read nautical miles or kilometers, as well as statute or land miles.

Four types of Logometers are offered. Types SS and SR for speed boats. Type CR for cruisers and type NR for large yachts and ocean liners. Extreme simplicity marks these instruments. They have no shaft and are said to be near 100 per cent. trouble proof. The manufacturer states that the Logometer adds very little drag to the boat, as the outboard connection or impact tube absorbs horsepower equal to only fifteen-millionths of the cube of the boat's speed in miles per hour.

(*Continued on page* 160)

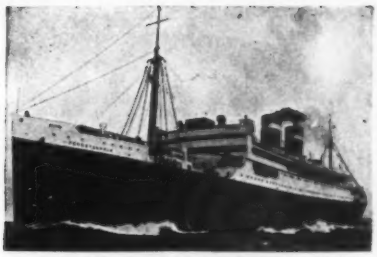
Advertising index will be found on 3rd last page.

At *Sea* or in the Harbor

Exide-Ironclad Marine Batteries will improve the reliability and performance of electric auxiliaries and lights on any type of boat in any kind of service.

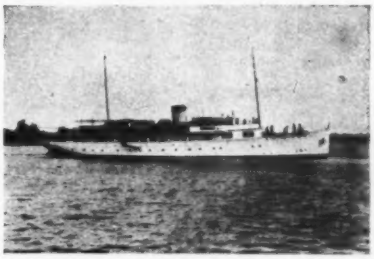
EXIDE-IRONCLAD Marine Batteries are designed for service in any type of ship. They can be operated in a manner new to marine circles in that they can be floated in a single series across the main bus with suitable generator adjustment. This enables the battery to function automatically and instantly in emergency . . . to absorb peak loads easily . . . to charge when the generators are in operation . . . to carry the entire electrical load when they are not in operation.

You can rely on Exide-Ironclad Marine Batteries to give perfect service steadily, dependably, and *economically.* And it's worth your while to get the facts about Exides and their application in your particular marine field. Write NOW. We will gladly send you the latest bulletins. Furthermore there's an Exide representative in almost every important coast and inland port who can give you valuable information. There is no obligation whatsoever.



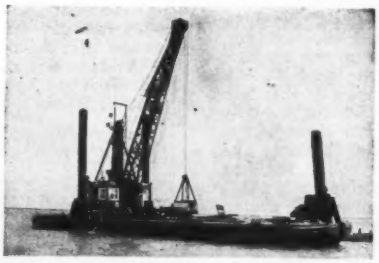
Great Ocean Liners *depend on Exide-Ironclads for steady, economical electric current in emergencies.*

For the Daily Grind, *ferries require efficient, continuous electric power for lighting and auxiliaries. Exide-Ironclads do the job easily.*



Majority of All Yachts over 100 feet *built in 1929 rely on Exide-Ironclad Marine Batteries for trouble-free, dependable current.*

Ample Power for Refrigeration, *lights and other uses. That's what Exides give to fishing boats. These batteries furnish auxiliary power for every need.*



For Diesel Powered Dredges, *Exide-Ironclads supply steady electric current for lighting and auxiliaries whenever necessary.*

For Heavy Duty Diesel Tugs, *Exide-Ironclads operate all auxiliaries when necessary . . . built for gruelling service under any conditions.*

For Freighters, *Exides are dependable and economical. Their rugged construction and long life keep them on the job, ready for duty at all times.*

Exide-Ironclad Battery *cell cut away to show construction.*

Exide
IRONCLAD
MARINE BATTERIES

THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia

THE WORLD'S LARGEST MANUFACTURERS OF STORAGE BATTERIES FOR EVERY PURPOSE

Exide Batteries of Canada, Limited, Toronto

The Famous Searchlight that Dominated The Recent New York Motor Boat Show

"Half-Mile-Ray"

At the recent New York Motor Boat Show, 17 standardized cruisers were equipped with "Half-Mile-Ray" or its big brother, "One-Mile-Ray". Only two cruisers of this type did not have it.

This smart, serviceable "Half-Mile-Ray" is a heavy-duty, sea-going light that defies rain, spray and fog. Sturdy, penetrating, brilliant. Quick, smooth gear control. Used on such leading crafts as Matthews, Elco, Chris-Craft, Banfield, Chance, Richardson, Jardine and others.

"One-Mile-Ray"—same style, twice the range. Also "Quarter-Mile-Ray" for outboards

Illustrated

No. 800-A Pilot House Control $60.

Write for Folder Describing Portable Light Searchlights for every Marine Purpose—$18 to $125. Use the convenient coupon below.

The **PORTABLE LIGHT CO., Inc.** MG3
12 Warren Street, New York, N. Y.

Send me your Illustrated Folder

Name .....

Address .....

City..... *State*.....

I own a Type.....**Boat**

Built by .....

"ELCO" 38-Foot Cruiser

YARD AND SHOP

(*Continued from page* 158)

MARINE GLUE CHARACTERISTICS

Liquid marine glues are divided into two general classifications—drying and non-drying. The drying glue, however, never hardens to the brittling stage. It drys on the surface, but in the body of the glue protected from the air it retains its resiliency indefinitely. The non-drying variety will lose some of its stickiness where exposed to the air but it really never drys. The word never is used in the full sense of the word. The drying glue is used for a waterstop in places and under conditions where a good adhesive is called for, but where at the same time a liberal amount of resiliency is absolutely essential. For example, in applying canvas the drying kind is imperative, for an adhesive is called for with lots of grip, and yet it must be ready for expansion and contraction in wet and dry, cold and hot weather.

The non-drying glue has no adhesive strength. Placed between two pieces of wood, an infant can pull them apart. But in the pulling the glue will adhere to both pieces of wood and string out like taffy candy in the making. Ten years later the same thing would happen. It never drys out.

In places where planks will weave and work, and where expansion and contraction are great, as in speedboats of very light construction, it is most valuable when used between double-planking and on battens. Speedboats are so racked by the heavy engines they carry that they would soon leak like a sieve if it were not for the non-drying glue that gives and takes to the limit.

Care should be taken therefore in purchasing liquid marine glue, that one gets the proper glue for the work intended, to avoid disappointment and grief, for only under very few conditions are the drying and non-drying kinds interchangeable.

COLGATE CLUB ELECTED TO A. P. B. A.

At a recent election of the American Power Boat Association, the Colgate Outing Club of Hamilton, N. Y., was elected to membership in the national organization.

AVALANCHE LAUNCHED BY CONSOLIDATED

On December 20, another launching took place at the Morris Heights yard of the Consolidated Shipbuilding Corporation, when Avalanche slid down the ways and took the water for the first time. Avalanche is a steel yacht, diesel powered, and 154 feet in length. She was built by Consolidated from Tams designs for Anson W. Hard.

REDUCTION GEARS INCREASE PROPELLER EFFICIENCY

The proper hook up between engine and propeller, to get maximum propeller efficiency, is a marine engineering factor which has been given considerable study during the past several years.

To get the best possible performance from heavy boats, such as cruisers, work boats and auxiliary sailing craft, equipped with high-speed engines, requires a propeller speed considerably less than that of the engines.

Until the development and perfection of suitable reduction gear units, such as is manufactured by the Morse Chain Company, the usual practice was to use an oversize engine in order to obtain the desired power at the proper propeller speed.

Through the use of Morse Straight-Line Reduction Gears, greater speed and greater hauling capacity are made possible for cruiser-type craft. At the same time, the towing ability of a work boat is greatly increased without the use of a larger power plant than is actually needed.

Morse Straight-Line Reduction Gears offer a convenient and practical means for transferring engine power to the propeller at the speed at which the propeller is best suited to do its work. Their use with slow speed gas engines and Diesels, as well as with the so-called high-speed engines, results in many important advantages. They make possible the use of maximum engine speed and power without the usual slippage, and at the lowest possible installation and operation cost.

Morse Straight-Line Reduction Gears are available in a complete range of standard sizes to meet practically all needs.

(*Continued on page* 162)

CHICAGO NATIONAL
MOTOR BOAT SHOW
April 25th to May 3rd
140,000 Square Feet of
MARINE DISPLAYS

Boats, Motors, Accessories for every Purpose

World's Greatest Marine Exhibit

Permanent All-Year Exhibit
at
CHICAGO NAVY PIER

CRUISERS—COMMUTERS—RUNABOUTS
OUTBOARD BOATS—SAIL BOATS
MARINE ENGINES—OUTBOARD MOTORS

Special Features During National Show Week

Including Demonstrations in the Water

MANUFACTURERS: *Write today for full particulars on either permanent exhibit or for space during Chicago National Show Week*

Sanctioned by National Association of Engine and Boat Manufacturers

MOTOR BOAT MART

NAVY PIER CHICAGO ILLINOIS

The "Perko"
Line Includes
improved patented Running and Marine Lights of all kinds, expressly designed and constructed as a quality product for the finest yachts. The improved Searchlight is made of extra heavy brass with bronze fittings. Long distance projection is insured by the U. S. Navy design glass mirror reflector made by Bausch & Lomb Optical Co. Furnished with wheel control as illustrated or with lever control handle. The small searchlight is very popular for outboards and runabouts.
The cruiser Binnacle is furnished in cast bronze or extra heavy sheet brass. All parts are screwed together. Supplied with night hood, oil and electric lamps and with or without Ritchie compass.

A 68-page catalog describing many other styles of marine lights and hardware accessories guaranteed by the name of "Perko" will be sent free on request.

PERKINS MARINE LAMP CORP.
1946 PITKIN AVENUE **BROOKLYN, N. Y.**

YARD AND SHOP

(*Continued from page* 160)

GOVERNMENT PUBLISHES NEW CHARTS

A number of new charts have been prepared by the United States Coast and Geodetic Survey covering a number of important rivers and harbors along the Atlantic coast, principally in the northern part. The numbers of the charts and the areas they cover are as follows: No. 280, Philadelphia and Camden waterfronts; No. 375, Raritan River; No. 369-4, Hudson and East Rivers; No. 296, Delaware River, Philadelphia to Trenton; No. 218, New Haven Harbor; No. 369, New York Harbor; No. 284, Hudson River, Coxsackie to Troy; No. 219, Milford to Stratford, including the Housatonic River; No. 286, Raritan Bay and Arthur Kill; No. 542, Jamaica Bay and Rockaway Inlet; No. 543, Shrewsbury River; No. 274, Harlem River; No. 250, Eastern entrance to Nantucket Sound; No. 359, Thames River, New London Harbor; No. 579, Hempstead Bay, Long Island; No. 369-8, Hudson River, Days Point to Fort Washington Point, N. Y. and N. J.

Any of these charts is available at nominal cost at the office of the Coast and Geodetic Survey. The address of their New York Field Station is Room 312, 78 Broad Street, New York, N. Y.

RECORD SALES AT NEW YORK SHOW

Chris Smith & Sons Boat Co., Algonac, Michigan, makers of the popular Chris-Craft all mahogany runabouts, sedans, commuters and cruisers, succeeded again in doing what they did at last year's national Motor Boat Show, and that was to sell approximately a third of all the boats sold.

Total sales volumes for the week, including both wholesale and retail sales, was $2,204,216.50. One order from Noyes Marine Co., New England distributors, accounted for 107 boats and represented a dollar volume of $500,000. Several other 100-boat orders were received, including one from the Detroit distributor, Belle Isle Boat & Engine Company and F. L. Maury, who represents Chris-Craft in the Minneapolis territory. Jay W. Cothran, New York City distributor, swelled the total several hundred thousand dollars next to the last day of the Show.

If by any chance there had been any fear that the corrective movement in the price of securities had destroyed the buying power of the public, that fear was dispelled emphatically by Chris-Craft's remarkable showing during the week.

"Never did we experience such interest in boats, nor do such an enormous volume of business in so short a time," said J. E. Clifford, general sales manager. Everybody that came to the boat show seemed to be a logical prospect for some type of boat, and Chris-Craft naturally got their share of the business.

"Particular attention was paid to the new models, the 48-foot yacht, the 34-foot commuter and the 20-foot runabout. Each attracted thousands of lookers and received countless favorable comments.

"Distributors from all parts of the world were in attendance. Baron Otto Von Raben of Copenhagen was a Chris-Craft visitor during the week. Betty Carstairs, the plucky British sportswoman and challenger for the 1930 Harmsworth Trophy, was unable to attend but sent her compliments in the form of an order for another Chris-Craft to add to her already large fleet. During the week a shipment of Chris-Craft was made to Buenos Aires, where the outdoor season is now in progress.

"All, in all, Chris-Craft is immensely pleased with the response which they received from the boating public. Factory production, already in full swing with 163 boats for January and 300 boats thereafter, will be speeded up to the fullest possible extent in order that every Chris-Craft purchased may be given delivery when wanted."

BANFIELD MOVES NEW YORK OFFICE

The Banfield Sea Skiff Works of Atlantic Highlands, N. J. whose New York office was formerly located at 502 Lexington Avenue, have announced the opening of a new showroom and permanent exhibit at 254 Fourth Avenue, New York City. Their line of Sea Skiff cruisers and runabouts will be on display at all times, conveniently arranged so that the public may inspect them at any time.

(*Continued on page* 164)

...not an isolated section of the country

. . . but the whole world comes in with amazing clarity on

THE NEW LEUTZ SHORT WAVE RECEIVER

Engineered and built only for short waves . . . . not an adapted set

NOW there is no need for you to wait for foreign programs to be rebroadcast. Hear the program direct, via short waves!

This new Leutz set is built *only* for short wave work. It is so selective and so sensitive that it sets an entirely new standard in distant reception. New and original features are included which overcome the early difficulties encountered in such work. It is reliable, easy to operate, and ideal for use on motor boats and yachts as well as in the home.

Descriptive literature gives the complete details of this amazing set. Write now for information.

C. R. LEUTZ, INCORPORATED

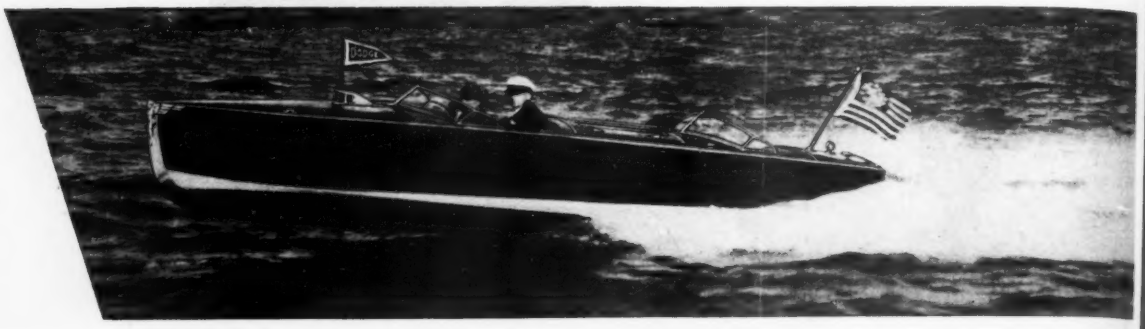
ALTOONA, PA., U. S. A.

Cables: Experinfo, N. Y.

Sales Offices in New York, Los Angeles and Paris

Mention MoToR BoatinG, *57th St. at Eighth Ave., New York*

65% *of the* EXHIBITORS— RUSSIALOID USERS



At the New York Motor Boat Show held just lately 65% of the boats were upholstered with Russialoid. For example, *all* Dodge boats gain just another added point of attractiveness from the unparalleled comfort and quality of their Russialoid upholstery. Available in a variety of colors, Russialoid for upholstery and trim gives that decorative refinement so much in demand by the motor boat enthusiasts of today. Such an overwhelming preference for this remarkable material testifies to the weather-resistance, durability and beauty of Russialoid.

The PANTASOTE COMPANY, Inc.
250 PARK AVENUE **NEW YORK**

YARD AND SHOP

(*Continued from page* 162)

KERMATH HAS FINE DISPLAY AT SHOW

The tremendous popularity and inducement for boating has brought in so many new organizations that the Show, which formerly occupied the ground floor in the mezzanine, now occupies four floors of the Grand Central Palace, and all the marine engines, with the exception of the very heavy Diesel, were placed on the fourth floor. These exhibits, however, proved to be very well patronized, and there was more apparent interest in the power of boats than ever before. This is a natural trend on the part of the public, according to J. B. Farr, president of the Kermath Manufacturing Company, who went on to state that, in his opinion, the average man realizes the necessity of placing the utmost dependability on his power plant. He exhausts every possible resource to find what, in his opinion, is the best motor for his purpose. It is surprising to us who have been in the business for so many years, to now see men though very conversant with marine engine design place very apparent dependence on construction features, new engineering advancements, new accessories, and even the specifications for the materials and details of design.

Included in the Kermath exhibit was the two cylinder 8-10-h.p. complete marine unit, 16-h.p. four cylinder, the four cylinder 20-h.p., four cylinder 35-50-h.p., the six cylinder 100 high speed and the six cylinder 85-h.p. medium duty, 125-h.p. high speed, and the new 225-h.p. model, the latter making its debut with the new type downcraft carburetor, maximum capacity fuel pump, special crankcase ventilation system, oil cooler, oil purifier, and backfire flame arrester attached to the downdraft carburetor.

The Kermath exhibit attracted a great deal of attention, not only for its beautiful exhibit, but also for the very complete showing of marine engine that were made available for inspection by the public.

CHRIS-CRAFT 38-FOOT COMMUTER

A year ago after exhaustive tests and experimentation, Chris Smith & Sons Boat Company, introduced what was at that time a new idea in fast commuting cruisers. The 38-foot all-mahogany Vee bottom boat which they put on the market was an innovation from the standpoint of luxury, speed, seaworthiness, and beauty. These boats with their big double forward cockpit, their enclosed cabin space, including galley and bathroom were to become popular pleasure craft throughout the waters of the United States. Before the close of the New York Motor Boat Show, the year's production of sixty boats was sold out, so popular were they with the show enthusiasts.

Not content to go into 1930 with only a few minor improvements in this boat, the builders of this Chris-Craft set about early in the summer of 1929 to make improvements on this model. The optional changes are as follows: To begin with the forward cockpit has been reduced in size and now consists of one broad seat, the full width of the boat giving a commanding position. Going below, we find the extra two feet added on to the cabin to make it roomier and larger throughout. A spacious clothes locker is found forward on the starboard side; room to hang suits and clothes as well as linen storage space is conveniently located here. An enlarged lavatory is next aft to starboard where as usual are found full facilities common to all the Chris-Craft cruisers. The galley is located on the port side and is fully two feet longer than that on the optional model; it offers more conveniences for preparing meals and storing of supplies and cooking utensils. The main cabin is the same as the other model offering comfortable beds for four, two of which fold against the side of the boat forming luxurious cushioned seats.

Going aft on to the bridge deck, we find the controls centered here much as in the earlier model and beneath the hatches one of the 150 h.p. Chris-Craft marine motors. A seat across the aft end of the bridge deck provides a comfortable position for four or five guests to lounge. Going aft still farther we descend to the cockpit which has special cushioned seats for three with ample room for the storing of gear on either side.

There will be but thirty each of these models built for 1930 offering the prospective purchaser his choice in the matter of layout and plan. It will be easily seen that the earlier model is in no way obsolete or superseded by the new one, rather it is a broadening of the line of 38-footers that Chris-Craft has tried to do with the addition of this new model.

(*Continued on page* 166)

Swept to Prominence Through Sheer Merit

ENTHUSIASTICALLY APPROVED BY THOUSANDS AT THE NEW YORK MOTOR BOAT SHOW

11 MODELS

$535 to $2685

16 and 19 ft. lengths.

4′6″ and 5′10″ beam.

4, 6, and 8 cylinders.

20 to 40 m.p.h. speeds.

5 and 6 passengers.

NOTE TO DEALERS
The Dee Wite dealer organization is a group of responsible merchants presenting a quality product in a worthy way. Some territory is still open. If you would like to be one of such a selling organization, write for full information.

EXPANDING its remarkable success of last year, Dee Wite motorboats established a new and greater sales record at the 1930 New York Motorboat Show. The first line of quality motorboats ever to be offered the public at a moderate price, Dee Wite answers the demand of people of average incomes for watercraft that are fast, luxurious, safe, and dependable.

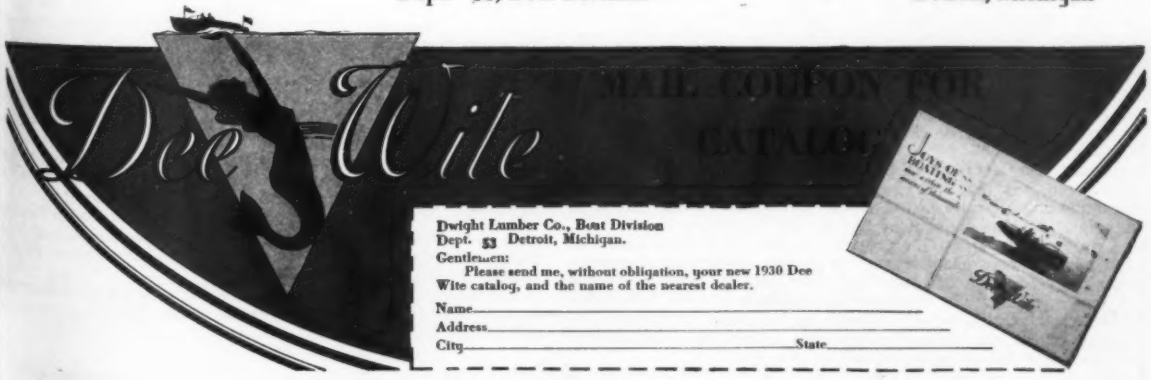
To anyone viewing the 11 beautiful models that make up the 1930 Dee Wite fleet, their outstanding quality is immediately apparent. Lines are trim and clean—the obvious handiwork of master designers. Construction is of solid mahogany over tough native white oak framing—the finest known to build a motorboat hull. Hardware is specially designed, and heavily plated to resist corrosion. Lengths are 16 and 19 feet, with beams of 4′6″, and 5′10″. Nationally famous 4, 6, and 8 cylinder motors give speeds ranging from 20 to 40 m.p.h. Equipment is unusually complete, even for boats costing many times a Dee Wite's price.

You, too, can have a quality motorboat at a moderate cost when you select a Dee Wite. Your local dealer has models on display, and beautiful free literature describing the entire line. Call at his salesroom today and inspect the 1930 Dee Wites. If there is no local representation for these fine craft, write us direct for your copy of the beautifully illustrated free catalog. Early orders insure delivery when wanted.

Commercial Credit Deferred Payments if you wish.

DWIGHT LUMBER COMPANY

Dept. 53, Boat Division - - Detroit, Michigan



Dwight Lumber Co., Boat Division
Dept. 53 Detroit, Michigan.
Gentlemen:
Please send me, without obligation, your new 1930 Dee Wite catalog, and the name of the nearest dealer.

Name_____

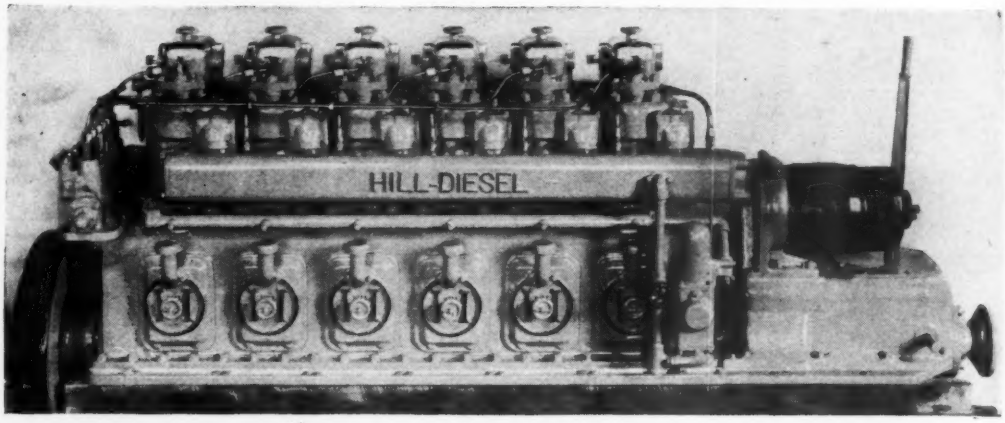
Address_____

City_____ State_____

WHY GAMBLE WITH THE FIRE HAZARD
WHY WASTE MONEY ON EXPENSIVE FUELS } ?

HILL DIESELS ARE SAFE—ECONOMICAL AND RELIABLE

BUILT IN A SIZE FOR YOUR BOAT



HILL DIESEL ENGINE COMPANY

248 MILL STREET LANSING, MICHIGAN U. S. A.

INTERNAL COMBUSTION ENGINES SINCE 1899 DIESELS EXCLUSIVELY SINCE 1926

YARD AND SHOP

(*Continued from page* 164)

MOTOR BOAT SHOW IN REVIEW

Every industry in this country observed the success of the Silver Anniversary Motor Boat Show held in New York January 17 to 25, according to Henry R. Sutphen, president of the National Association of Engine and Boat Manufacturers.

On account of the popular misconception of ideas that boats are the ultimate in luxury, other industries believed that marine manufacturers would be the first to suffer from economic retrenchments and that the successes or failures of the show would serve as barometers for 1930 production schedules.

The results of the show justified any optimism that motor boat builders might have felt, for, it is estimated that sales averaged nearly 30% greater than sales of a year ago, while attendance increased by approximately the same figure. The amount of space used by the exhibitors was 27% greater than that used in 1929 and the number of exhibitors increased 20%.

A particularly strong development was noted in the runabout field from which 62 craft were produced for the show. The new low-priced boat in that division attracted a great amount of attention from spectators and produced some phenomenal sales records for the two companies displaying models priced at less than $1000.

Marine engine builders hurried forward with light four- and six-cylinder motors to supply the demand for economical power units to be used in small inboard boats. They were met half-way by the outboard motor builders who appeared with their high-powered units carrying electric starters and satisfactory muffling devices.

A particular decrease in the number of outboard racing boats was noted, but that loss was balanced by an equal increase in the number of family boats, which portrays a sounder trend in this fast-growing division of the marine industry.

Cruisers were shown in greater numbers. Outboard lines and hull designs were changed very little but interior arrangements were more compact, of better finish and built for accommodation of more persons. The twin-screw cruiser, first used in smaller models last year, was very popular at the show. It answers, to a great extent, the modern yachtsman's request for combinations of speed and accommodations—all in one boat.

HUCKINS YACHT SHOWS EXCEPTIONAL PERFORMANCE

The remarkably efficient performance of the Huckins 45-foot Fairform Flyer is graphically revealed in a plotted curve which shows Fairform performance in terms of statute miles per hour speed throughout the range of engine revolution rates, together with a supplementary curve indicating propeller efficiency at all boat speeds.

The curve was based on the results of a test over an accurately checked and measured course. It shows that the Fairform yacht gains speed as a displacement hull in direct proportion to the power used, that it attains its planing speed at a low rate of revolutions, and, what is particularly interesting, at the point where one would naturally expect to see its efficiency fall off, the hull continues to travel proportionately faster with every ounce of horsepower applied, right up to the maximum power of the twin 200-horse Kermaths.

The character of the curve can mean but one thing—that Fairform lines are scientifically correct, obtaining maximum speed, efficiency, and economy from the motors. Apparently the Fairform hull needs only the application of increased power in order to secure considerably higher rates of speed.

FILMS TELL STORY OF MONEL METAL

A two-reel motion picture telling the story of Monel Metal has been released by the Rothacker Film Corporation, of Chicago.

The film shows the preparation of the metal in its various commercial forms at Huntington, West Virginia, and traces its various uses in more than a score of different industries.

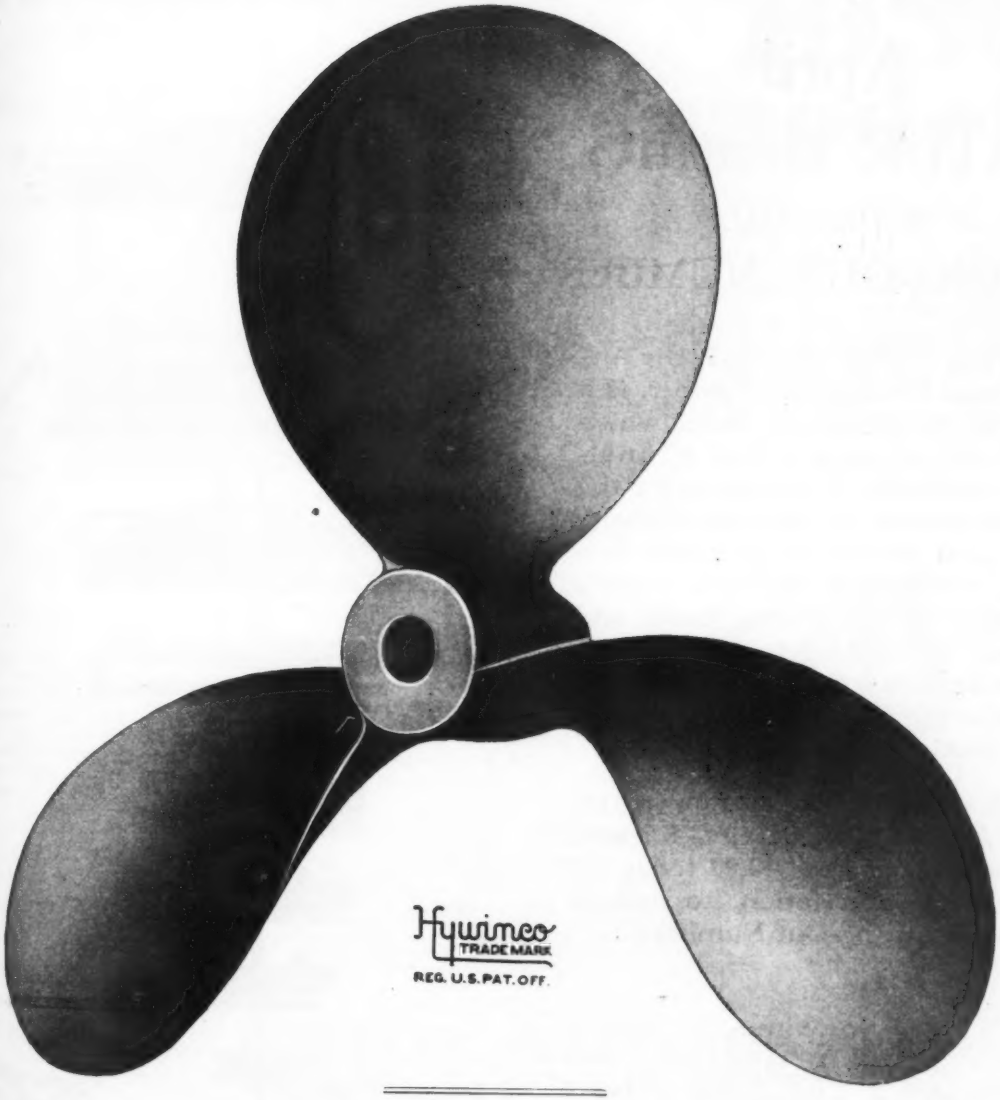
Also shown in the film is the tapping of an eleven-ton furnace with the molten metal being poured at a temperature of 3000 degrees Fahrenheit. This is the largest non-ferrous electric furnace in the world.

The picture is being offered to schools, societies, commercial organizations, and the like, without charge and is available in 35mm and 16mm widths.

(*Continued on page* 170)

Advertising index will be found on 3rd last page.

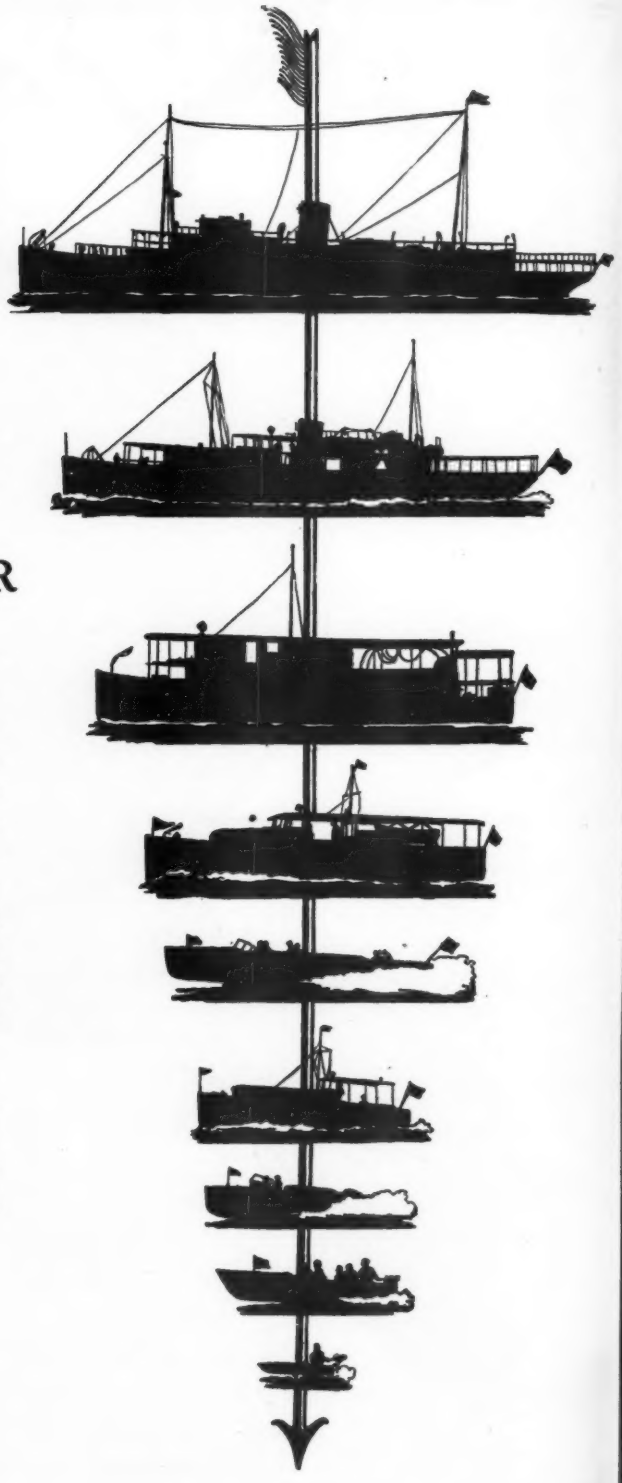
HYDE



SEND FOR A COPY OF OUR BOOKLET
"PROPELLER EFFICIENCY"

HYDE WINDLASS COMPANY
BATH, MAINE.

Read—



April MoToR BoatinG

THE ANNUAL FITTING-OUT NUMBER

APRIL MoToR BoatinG, the Annual Fitting-Out Number, is a special fifty-cent issue, which every yachtsman will find of invaluable assistance in preparing for the coming season. It will contain many extra and seasonable editorial features, including a tabulated buyer's directory of the leading boats and engines in addition to 175 pages of advertisements of the leading marine manufacturers, from which to select your boating requirements.

Tell your newsdealer now to reserve April MoToR BoatinG for you, or even better, send $3.00 today for one year's subscription, to include the April Fitting-Out Number.

MOTOR BOATING

The Yachtsmen's Magazine

57TH STREET AT EIGHTH AVENUE

NEW YORK, N. Y.

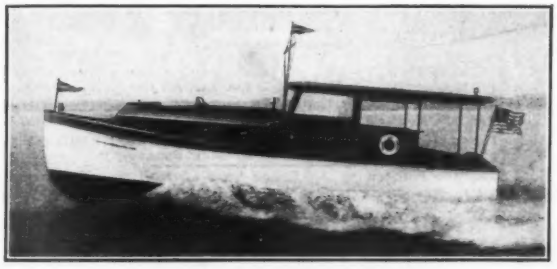
Advertisers! The April Fitting-Out Number of MoToR BoatinG is the peak of the spring buying season. Plan your advertisement now. Write or wire space reservation today. Copy and cuts should reach us not later than March Tenth.

LARGEST BOATING CIRCULATION IN THE WORLD

Advertising index will be found on 3rd last page.

SEAWORTHY as an Ocean Liner

26-foot WHEELER "PLAYMATE"



29-foot WHEELER "PLAYMATE"

Rarely, if ever, can you find 26 and 29 footers as thoroughly seaworthy as the WHEELER "PLAYMATES" of these sizes. They are built for the roughest kind of deep-sea service. They take you out and they never fail to bring you in, regardless of weather conditions. They ride the waves with incredible smoothness and steadiness. While they are built also with a view to efficiency, beauty and comfort, everything is subordinated to that characteristic of greatest importance—*seaworthiness!* That is why they stand alone as the sportsman's first choice.

Let us send you complete literature about these two boats—also information about the complete Wheeler Line of fifteen new 1930 models, ranging from 26 to 47 feet in length.

1930 models

39'11" x 11'—Single, Sedan and Double Cabin Models
36' x 10'—Single, Sedan and Double Cabin Models
33' x 9'6"—Single and Double Cabin and Sport Models
29' x 9'3"—Single and Short Cabin and Sedan Models
26' x 8'2"—Single and Short Cabin and Sedan Models
22' x 7'—Sedan and Open Models
$1,950.00 — $12,750.00
47' x 12'—New, Custom Design, Single and Twin Screw
Prices on Application

WHEELER SHIPYARD

Distribution Points:

Boston—Stearns Marine Service Company, 19 Central St.
Syracuse—C. E. Brown, James St. & Oswego Blvd.
Houston—Tracy Parks, 2nd Nat'l Bank Bldg.
Miami—Couzens & Daly, 29 Hotel McAllister Blvd.
Detroit—Detroit Marine Garage, East Jefferson Ave.

Write for new Catalog "A"

WHEELER SHIPYARD

Foot Harway Avenue, Brooklyn, N. Y.

Tel.: MAYflower 7600

The New VIKING Sport Fisherman

24 - 26 AND 30-FOOT MODELS

Speed 14 Miles per Hour and Up

AN all around practical sea-boat of staunch construction and fine quality designed for fishing or day cruising. Seats ten in cabin and has dual steering controls, from forward and cockpit positions. The cockpit is spacious and unobstructed in casting.

Equipment complete in every detail, including Fire Extinguisher, Electric Running Lights, Dual Steering Control, Navy Bilge Pump, Sands Toilet, Columbian Bronze Propeller, Rudder and Strut, Life Preservers, etc

The Vikings are available in several cabin styles

$2250.00 and Up

Afloat, Toms River, N. J.

YOUR BEST BET—Visit our showroom on Toms River (adjacent to Atlantic City Boulevard) and inspect the latest models.

ACO SEABOATS, BOYD-MARTIN *and* DEE-WITE RUNABOUTS
RICHARDSON 29-FT. *and* STAPLES-JOHNSON 34-FT. CRUISERS

Demonstrations Given at our Showroom on the Waterfront
—the Place to Buy Your Boat:

Aggressive Boat Salesman Wanted — ***Installment Terms and Open Sundays***

TOMS RIVER BOAT WORKS, INC., TOMS RIVER, NEW JERSEY

Forty Years a Boat Yard

Charles Thompson, *Manager* **Telephone: 180**

BUILDERS OF FAST SEA SKIFFS AND YACHT TENDERS

YARD AND SHOP

(*Continued from page* 166)

DEE WITE LINE A FAVORITE

A year ago they were saying that motorboats and outboards were two separate and distinct classes, with the motorboat far ahead from the standpoint of comfort and convenience. When the Dee Wite Model 1 for outboard power was brought to last year's Motorboat Show, the beholders were amazed at its high quality and modest price. Here was a true motorboat in every sense of the word, but it was powered and priced to fit the average man's purse.

This year Dee Wite made another great advance. Having tasted the sweetness of the reward that comes to the successful pioneer, a new line was brought forth. It was visioned as a quality line of motorboats in every sense, with refinements of fitting, and trimness of line that would make a Dee Wite a welcome addition in any boating company. A carefully planned program was worked out, in which some of the greatest motorboating authorities in the country had a part.

It was foreseen by this company that boating would eventually become the sport of the average family—and the new Dee Wite line was built to give that family exactly the kind of motorboat that has hitherto been the property of those beyond ordinary means. To this end, five Dee Wite models of the new fleet of eleven were displayed at the New York Boat Show this year. The story of the public's enthusiastic acceptance of this remarkable line has been written on the pages of Dee Wite's order books, for never before has such a recognition been accorded a builder of moderately priced craft.

Heading this new field came Model 1—of course. The demand of the public made it obligatory upon the builders to continue this fine motorboat. Nevertheless, there is a great and steadily enlarging market for motorboats with the source of power mounted inside, providing that the boat sells for no more than the average medium priced car. Dee Wite answered this call with motorboats that have seldom been equalled for fineness of design and perfection of appointments. Everything that was needed to make a motorboat good was incorporated into the Dee Wites, even to such fine details of equipment as reclining backs for the De Luxe model seats and specially designed Dee Wite hardware. A variety of power, ranging from four to eight cylinders, was offered, with speeds ranging up to 40 honest miles an hour.

The estimated Dee Wite sales at the close of the show were over $900,000, including some that attracted unusual attention throughout the boating world. T. T. Lovelace of Maracaibo, Venezuela, ordered ten boats to use on a commercial alligator farm. A Dee Wite yacht dispatch boat was sold to a prominent sportsman for use as a tender on a proposed cruise around the world.

A POWERFUL YACHT DIESEL

More and more of the palatial new yachts are being equipped today with the Speedway Diesel Engine, product of the Consolidated Shipbuilding Corporation of Morris Heights, New York. The Consolidated Company has long since established a reputation for the construction of the highest type of fine yachts and cruisers and their production of marine engines of both the gasoline and diesel type enables them to supply the power plants for their boats right from their own shops.

The Speedway Diesel is a six-cylindered, four cycle solid injection engine, rugged in construction, turning up 5 to 700 r.p.m. and developing as much as 300 h.p. on a weight of 7000 pounds. This is comparatively light for a diesel engine and is one of the factors which accounts for its general popularity. On the basis of 300 h.p. it weighs approximately 25 pounds per horsepower. Simple in operation, it is conveniently controlled with two levers and shifts which make it possible to go from full speed ahead to full astern in a few seconds, thus insuring rapid and easy maneuverability. Air, fuel and pressure gauges as well as tachometer are mounted on the instrument board at the forward end of the engine. Oil and water pumps are part of the engine and practically all of the working parts and piping are concealed inside easily removable housings. Despite its tremendous power this big diesel operates with surprising smoothness and quietness.

(*Continued on page* 172)

Advertising index will be found on 3rd last page.

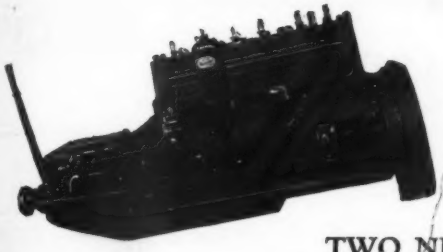
RUGGED

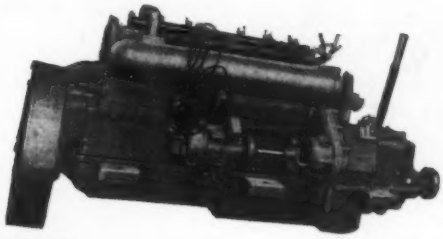
—as a bit of Rocky New England seacoast—endlessly withstanding storm, tide, and the ceaseless beating of the waves.

Red Wing Thorobred marine motors have been known 30 years for their inbuilt ruggedness—their ability to stand up under strain, heavy loads and long, steady service. You'll find the same rugged strength and reliability in every model in the famous Red Wing line.

Red Wing Thorobred

THE MOTOR WITH POWER TO SPARE





TWO NEW LEADERS AMONG THE QUALITY SIXES

ARROW JUNIOR

4-cyl. 35-70 h. p. High Speed Type

Representing the most power and quality that can be built into a motor of this size. Designed for sustained high speed service in fast runabouts, yet equally at home in the cruiser of racy lines. The dynamic power, pep and smoothness of this latest Red Wing will be a revelation to you. It has the built-in ruggedness and stamina which has characterized Red Wing motors for the past 30 years.

4-cylinder, 4-cycle; bore 3⅛", stroke 4¾". Speeds to 2600 r.p.m. All the refinements of modern approved marine usage. A sensational value at

$730 for grey iron base type and $780 for aluminum base.

Nineteen* THOROBRED *Sizes

4 to 150 h.p.
4 Cylinders

D 10-14 h. p –3¼" x 4"
AA 18-24 h. p.—3¾" x 4¼"
F 28-36 h. p.—4-1/16" x 5"
B 32-40 h. p.—4½" x 5"
BB4 40-50 h. p.—4½" x 6"
BB4 HS 45-70 h. p.—4½" x 6"
Big Chief 50-60 h.p.—5" x 7"
Big Chief Special 75-90 h.p.—5¾" x 7"

6 Cylinders

Warrior 30-50 h. p.—3½" x 5"
Arrow 40-80 h. p.—3¾" x 4½"
Arrow, Jr. H.S.—35-70 h. p.—3⅛" x 4¼"
BB6 MD 60-85 h. p.—4½" x 6"
BB6 HS 85-110 h. p.—4½" x 6"
BB Sp. 6 MD 75-100 h. p.—5" x 6"
BB Sp. 6 HS 100-150 h.p.—5" x 6"
Big Chief Six 90-115 h. p.—5" x 7"
Big Chief Special Six 110-150—5¾" x 7"

1 and 2 Cylinders

K 4-5 h. p.—3¼" x 4¾"
KK 7-8 h. p.—3¼" x 4¾"

New 1930 Catalog on Request

THE WARRIOR

6-cyl. 30-50 h. p. Medium Duty Type

The Red Wing "Warrior" is unquestionably the most motor for the money on the market today. Not as speedy or powerful as the Arrow Junior, but a delightful, reliable and lasting power plant for runabouts, cruisers, auxiliaries and general all-around service. It's the economical buy for the man who is looking for satisfaction, a fair amount of speed, and a motor he can depend on year in and year out.

6-cylinder, 4-cycle; bore 3½", stroke 5". Normal speeds to 1600 r.p.m. Built-in reverse, electric starter, and many refinements—at only

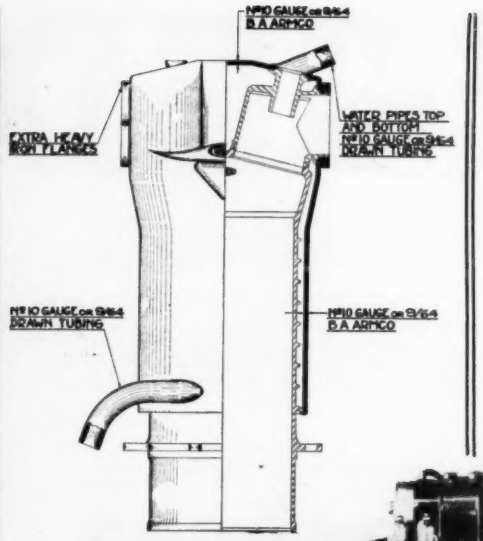
$495 for medium duty iron base type; $545 for aluminum base.

RED WING MOTOR COMPANY

RED WING, MINNESOTA, U. S. A.

EASTERN DISTRIBUTORS

W. H. Moreton Corp., 1043 Commonwealth Ave., Boston
Verrier, Eddy Co., 201 East 12th St., New York City
W. E. Gochenaur Mfg. Co., 631 Arch St., Philadelphia
F. B. Eisenbrandt, Foot of Light St., Baltimore, Md.
L. L. Tripp, Watervliet, New York

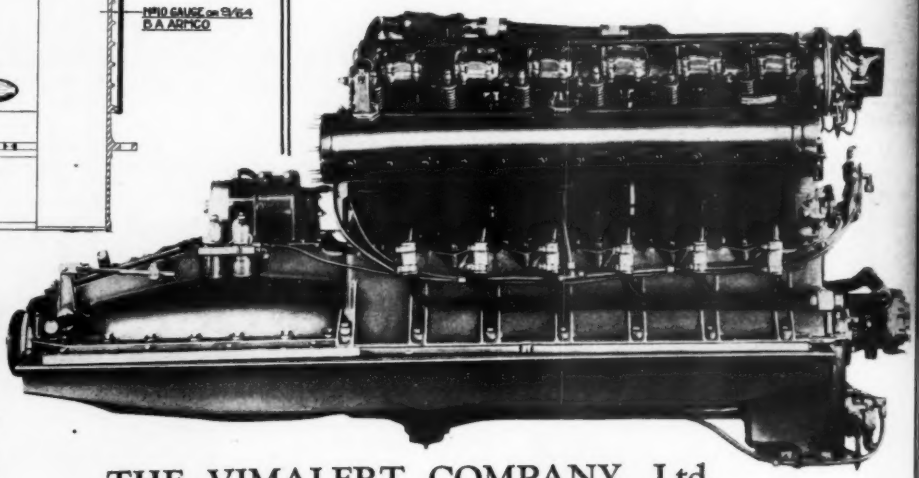


The VIMALERT Water Jacket . . . a special and unique feature of the VIMALERT MH-12 and ML-12.

The VIMALERT Marine Engine

400 HP. at 1850 RPM. BORE 5" STROKE 7"
TWELVE CYLINDERS
WEIGHT 1800 LBS.

The features of this outstanding marine engine are fully described in a folder we'll gladly send you.



THE VIMALERT COMPANY, Ltd.
835 Garfield Ave. Jersey City, N. J.

YARD AND SHOP

(*Continued from page* 170)

RED BANK GETS GOLD CUP RACES

America's oldest speed boat classic, the Gold Cup races, will be held on the North Shrewsbury River at Red Bank, N. J., August 16 and 17. Although the Red Bank Yacht Club failed in its attempt to win the trophy a year ago when the races were held on the same course, the contest was awarded to the club again.

Richard F. Hoyt, present holder of the trophy, has announced that he will defend the prize but he did not state whether or not he would use Imp, the boat which was used in winning the cup a year ago. On account of a change in the rules which will allow the use of lighter hulls, it is quite probable that Hoyt will have to build a new defender or suffer from the handicap of driving a heavy boat.

Commodore Gerald Holbrook of the Red Bank Yacht Club will build a new boat to replace Jersey Lightning, the craft which capsized two days before the races last year. Other boats have been promised by Gar Wood of Detroit, James A. Talbot, Jr., of Los Angeles and William Bigelow of Philadelphia.

It has been common knowledge for some time that Gar Wood refused to build a boat for the races until the weights had been reduced. With the changes in rules, it is quite probable that he will enter with two boats.

James A. Talbot, Jr., disposed of Miss Los Angeles and will construct a new challenger. S. B. Dunsford, veteran Gold Cup driver, may use the boat built for him a year ago, but the changes in rules might preclude the advisability of his doing so.

During the two-day regatta, the Red Bank Yacht Club will also hold its first National Sweepstakes competition, open to any boat using a single motor. Such rules place the contest next to the British International Trophy races in liberality and may result in an unusually active annual competition. At the time of the race there will be a great number of boats elegible for competition, namely: all Gold Cup boats, Carenaught and Curtiss Wilgold III owned by C. Roy Keys of Buffalo, W. S. Corby's giant runabout used in the classic Potomac River championship race last fall, Miss Britain, being built by Hubert Scott-Paine, and Miss England I.

A third feature of the Red Bank regatta will be the 151 hydroplane championships for the trophy offered by the National Association of Engine & Boat Manufacturers and the fourth major event will be the Intersectional Outboard championships between the New England and Middle Atlantic outboard associations. The latter event, serving as an elimination contest prior to the national championships, indicates that the choice of Red Bank leaves the national competition to Middletown, Conn.

Requests from many other eastern cities, however, precluded the National Outboard Association from stating definitely that the races will be held in Connecticut, for representatives from Boston, Troy, N. Y., Charleston and Washington have made similar bids.

ARTISTIC FLOATS, DOCKS AND BREAKWATERS

Many yachtsmen have long felt the need for good substantial private housing and docking facilities which would combine the utility of ample protection for their boats with sufficient artistic qualities that they might be an asset rather than a detriment to the appearance of a fine estate or summer home. For those persons the Walsh-Bugbee Company manufactures a very complete line of artistic steel floats, floating docks and breakwaters to meet the requirements of particular yachtsmen. Stable, durable, convenient and practical, they are far superior to the old-fashioned types of wooden structures which are generally inadequate for the requirements of the service to which they are put. The Walsh-Bugbee line includes floats and breakwaters in a variety of sizes and styles suitable for a great number of different purposes. There are, for example, several different styles of float suitable for entertainment purposes on the water, a number of bathing floats, canopy-protected floats with slip drives for any number of craft in individual berths, T-head docks for use in yacht club service, floating breakwaters, aircraft landings and boat landing docks. The construction of all of these floats is such that the size and design may be readily changed to suit individual requirements.

(*Continued on page* 174)

Advertising index will be found on 3rd last page.

CHRIS-CRAFT

Smashes All Sales Records

..Sales at the Boat Show *Total*

$2,204,216

28 ft. Custom Runabout, 11 Passengers, Speed up to 42 Miles Per Hour, 250 Horsepower Chris-Craft Marine Motor

FOUR hundred and ninety-seven Chris-Craft were sold at the New York Motor Boat Show to the value of $2,204,216.50, a great portion of the total reported sales of $6,485,000. From all quarters of the globe came Chris-Craft merchants—members of a loyal sales organization, international in scope. To them and their customers who came to buy, we convey our appreciation of this remarkable record. It is a record unparalleled in boating history. They bought Chris-Craft Runabouts, Sedans, Commuters, Cruisers and Yachts in such volume as to establish a new all-time record for sales at the New York Boat Show. ¶ Such outstanding public acceptance of the 1930 Chris-Craft fleet amplifies a leadership that is ever increasing—more pronounced in 1930 than ever before. ¶ If you are interested in the 1930 Chris-Craft Fleet write for the new illustrated catalog.

CHRIS SMITH & SONS BOAT COMPANY

383 Detroit Road - - Algonac, Michigan

New York Showrooms: 1 West 52nd St., at 5th Ave.

Chris-Craft

World's Largest Builders of All-Mahogany Motor Boats

For Yachtsmen Who Want the Best at a Reasonable Cost

FLEETWING Cruisers are noteworthy for their unstinted quality, real seaworthiness and livable accommodations.

Interior Decoration and Power Plants Optional

Commodore 55 Ft. Off-Shore Cruiser 250 h.p. gear reduction twin Buda motors. $35,000.

De Luxe 50 Ft. Express Cruiser, 350 h.p. twin Fleetwing Peerless Motors, $35,000.

De Luxe 40 Ft. Enclosed Model, 100 hp. Buda motor, $12,950.

Standard 40 Ft. Cruiser, 100 h. p. Buda motor, $10,875.

Junior 28 Ft. 72 h.p. Gray Motor, $3,850.

11 Ft. Mahogany Tenders, $175.00.

FLEETWING YACHT & SHIPBUILDING CORP.

153rd STREET AND HUDSON RIVER NEW YORK CITY

You are cordially invited to visit our showroom—via Broadway Subway to 157th Street, then across foot bridge at 155th Street, via auto W. 158th Street under viaduct, then to 153rd Street.

YARD AND SHOP

(*Continued from page* 172)

CHICAGO SHOW SPACE SELLING RAPIDLY

A feature never before characterizing any National Boat Show is being worked out for the National Boat Show to be held in Chicago April 25 to May 3 inclusive. A broad promenade extends along the entire length of Navy Pier, outside of the vast showroom. This promenade is 2200 feet, or more than quarter of a mile long, and has a width of twenty feet or more. On it Manager Hubbard H. Erickson proposes to erect tanks in which exhibitors of outboard and other small engines, those showing small boats, or moving parts for engines or boats can give actual demonstrations of their exhibits. Broad passageways connect the great show room with this promenade at regular intervals throughout its entire length, affording easy access for the public to these moving exhibits.

Another unusual feature of this Chicago National show is the fact that an exhibitor who secures space for the show period, can with a slight additional cost, arrange to hold and use his space for an entire year. He thereby becomes a part of the permanent Motor Boat Mart attractions. Rental costs for space during the show period of April 25 to May 3 and the usual days for installation of exhibits, etc., is $1.50 per square foot. That for a permanent exhibit, which includes the show period, is $2.50 per square foot and this latter figure gives the exhibitor a right to participation in the profits of the National Show. All these details will be explained to the prospective exhibitor by Manager Hubbard H. Erickson, by addressing him care Motor Boat Mart, Navy Pier, Chicago, Ill. That space is going rapidly may be known from the fact that on one day recently Manager Erickson closed contracts for $10,000 worth of show space.

INDIAN HARBOR ELECTS OFFICERS

At the annual meeting of the members of the Indian Harbor Yacht Club held December 14, 1929, the following officers were elected for the current year:

Commodore, Clifford D. Mallory; vice commodore, Robert P. Noble; rear commodore, Francis S. Page; Secretary, A. W. W. Marshall; and treasurer, S. W. Whitson.

SCOTT-PAINE, DESIGNER OF MISS ENGLAND VISITS UNITED STATES

Hubert Scott-Paine, designer and builder of Sir Henry Segrave's high-powered speed boat Miss England, has visited this country for the purpose of attending the New York Motor Boat Show, and conferring with prominent American boat and engine manufacturers.

Coincidental with Scott-Paine's sailing, motor boat leaders in America heard rumors that the English designer is building two challengers for the British International Trophy, now held by Gar Wood of the Detroit Yacht Club. One of the boats will be delivered to Sir Henry Segrave and the other will be placed in the race by Scott-Paine.

The array of challengers, further supported by Miss Marie Carstairs' new boat, offers threats of the most formidable competition yet aroused. Upon the basis of the English designer's success with Miss England I, American motor boat men are quite of the opinion that the British boats will reach the century mark in speed and will stand in a good position to add the water laurels to their present records in the air and on land.

RUNABOUT BUILDER REPORTS BIG SALES

The Lyon-Tuttle Corporation, builders of fine mahogany watercraft at City Island, New York, report an unusually large volume of business, stimulated by the New York Motor Boat Show. Sales actually closed are 50% ahead of what they were at a similar time last year. During the show orders were secured for two Sea-Lyons, which will be put into rather unusual service. One of these, sold to Dr. Curtenius Gillette is a Sea-Lyon which has been shipped to Europe, from which point it will be transported to Africa where Dr. Gillette proposes to use it in connection with an elephant and lion hunting trip. The other runabout, a 40, is being shipped to Maracaibo for T. T. Lowe, who will use it in collecting alligator skins from outlying trading posts along the river.

(*Continued on page* 178)

40 YEARS OF SUCCESSFUL MARINE ENGINE BUILDING CLIMAXED IN THIS *new* FALCON "25"

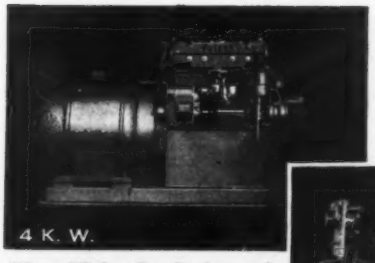
AND now—the speed, stamina and smoothness which distinguishes the "Falcon" Series from all other motors—wins another achievement!

The decisive popularity of "Falcon" engines has made it possible to embody the characteristics which belong to "Falcon" alone into this new, compact 20-25 H. P. engine . . . for the unprecedented price of $298 complete with reverse gear. Of course, without reverse gear, considerably less.

Never before have sport runabout owners been offered so much *motor* at so low a price. Yet, it is only typical of all "Falcon" engine values. The same advantages apply to "Falcon" super-smooth Marine Electric Plants. Their widespread popularity was demonstrated by the fact that more boats were equipped with "Falcon" lighting plants at the New York Show than any other make.

The Falcon Series includes the following 6 models: 5 HP "single"—10 HP "twin"—15 HP "four"—25 HP "four"—40 HP "four"—50 HP "six"

"FALCON" ELECTRIC PLANTS



super-smooth in operation and current output

The "Falcon" Series of super-smooth Electric Plants for marine use includes 9 models from 350 watts to 7½ K.W. in 12-32 and 110 volts

UNITED STATES MOTORS CORP.

Established 1890

Central and Eastern Canada Sales Office:
Maddox Engineering Co.
75 Adelaide Street, W.
Toronto, Ont., Canada

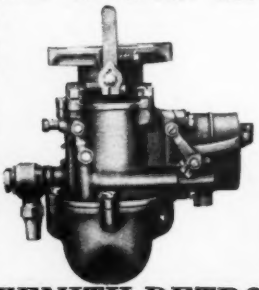
Factory and Main Office
102 Nebraska Street
Oshkosh, Wisconsin

Pacific Coast Representative:
Machinery Exporters, Ltd.
Merchants Exchange Bldg.
San Francisco, Calif.

Zenith Equipment *BETTERS* Performance

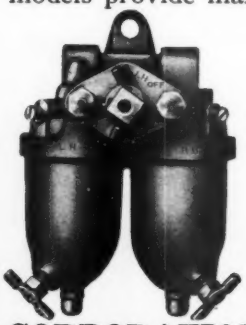
MARINE CARBURETORS

The time-tested Zenith principle of carburetion as applied to marine requirements has demonstrated its value in the Zenith Marine Carburetor. It is positive and dependable in action. No moving parts affect the mixture. Rough seas or quick turns have no effect on engine performance. The power boat owner cannot afford to economize on Safety—that is why the Zenith Marine Carburetor has grown steadily in favor and is recognized as setting a new standard in marine carburetion. To get the most in Safety and Satisfaction out of your power boat this year—equip with Zenith MARINE carburetion!



HIGH-EFFICIENCY FILTERS

Zenith *high-efficiency* filters are built in various models for every make and size of gasoline and diesel engine. They remove ALL impurities at sustained speeds and in the hardest service. Efficient in action, easy to install and clean, Zenith filters are sturdy and durable, with *no fragile parts.* Duplex Zenith models provide maximum safety if you frequent rough off-shore water, strong current or tides. They protect your fuel pumps or injector nozzles. Prevent shutdown due to dirt and water—install Zenith *high-efficiency* filters. Send for catalog and dealer's name.



ZENITH-DETROIT CORPORATION

Manufacturers of Zenith Carburetors and Filters

DETROIT - NEW YORK - CLEVELAND BRANCHES: - CHICAGO - MILWAUKEE MICHIGAN

SCIENTIFIC STANDARDS ESTABLISHED FOR OUTBOARD MOTOR SILENCERS

A NEW standard for muffler effectiveness which gives great promise for establishing further peace and quiet on our waterways, is the result of extensive tests recently completed by the outboard motor manufacturers. In the past, before the development of underwater silencers and more effective motor exhausts, the subject of noise in the outboard motor was one which brought forth a certain amount of comment and discussion both from the general public and from the newspapers and periodicals. No one, to be sure, welcomes the noisy outboard, or cares to be awakened at an early hour by the shrill tattoo of an improperly muffled outboard.

No single group has been more concerned with the effective silencing of outboard motors than the manufacturers themselves. In the interest of more quiet operation, several of the outboard motor manufacturers have developed the underwater silencer, hailed last year as a great advance in outboard construction. The underwater silenced motors of 1929 met with enthusiastic public approval and brought peace and quiet to our waterways. But the motor manufacturers have not ceased their efforts with this remarkable achievement, but have continued research tests to determine the most effective silencing possible.

In conjunction with Prof. Daniel Roesch, of the Armour Institute of Technology, of Chicago, extensive silence tests were made, in order to arrive at a definite standard of muffler silence, to be used as a guide in the future construction of outboard motors by the various manufacturers participating. The tests were conducted on Lake Geneva, at Williams Bay, Wisconsin, and were attended by engineers representing the Johnson Motor Co., the Evinrude Division, Outboard Motors Corp.; Elto Division, Outboard Motors Corp., and the Lockwood Division, Outboard Motors Corp.

In conducting the tests a course 200 yards long was accurately measured out, at a distance of exactly 100 yards from the pier, and at right angles. The course was then marked out by six buoys, forming a lane five yards wide. Each of the motors manufactured by these companies were then placed on a boat and driven through the course, in both directions, three times, while continuous galvanometer readings were taken of the noise produced by these motors.

The Accoustimeter, or noise detecting instrument around which these tests were centered, is a most interesting scientific apparatus, resembling to the lay mind, an old type radio, with horn loud speaker. It consists, however, of an aluminum covered cabinet, completely shielding the instruments contained in which are a sensitive galvanometer, a thermo-couple unit, three vacuum tubes, batteries and a control mounting at the top of the cabinet. An exponential horn mounted outside the cabinet detects the sound and carries it to the vacuum tube circuit.

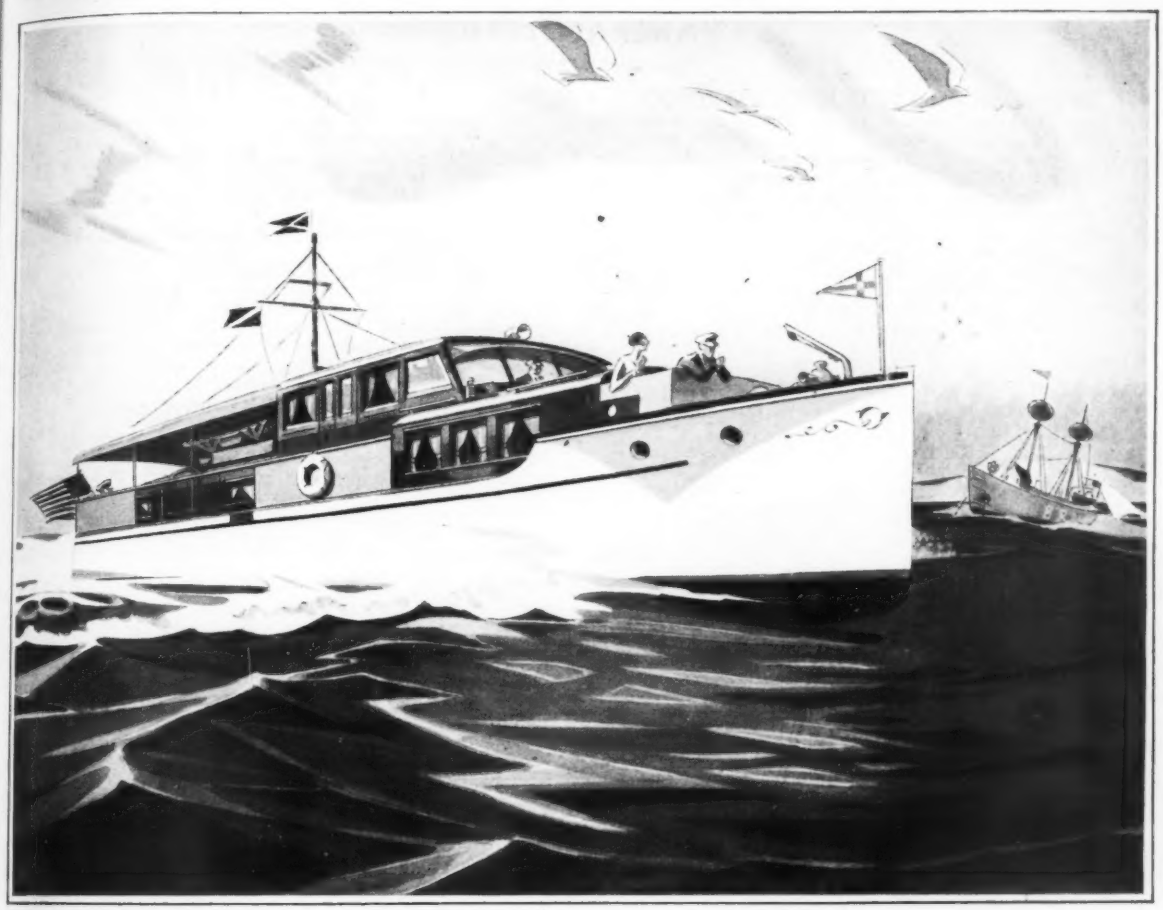
With the Accoustimeter placed in operation at the end of the pier, the tests are now begun. A motor is placed on the transom of the boat and the operator is directed to drive his boat at maximum speed through the narrow lane forming the course. The boat passes through the course from both directions, while continuous galvanometer readings are taken and recorded on a data sheet in noise units. A group of engineering experts from the research departments of these manufacturers assist Prof. Raesch in the recording of data. The tests are not concluded until every motor has been thoroughly tested and readings taken of runs through the course in both directions. On the various data sheets each motor has been recorded, and its actual noise measured in sound units is known.

It is interesting to note at this point that the engineers not in any way connected with the motor manufacturers represented expressed high praise for the present outboard motor silencers, and were deeply impressed with the quiet operation of the latest model motors now being offered to the public.

The most important contribution to quiet outboard operation these tests has been the determination of a standard muffler effectiveness, which is being adhered to in the present construction of outboard motors. This standard, based in actual noise units, sets a determining point for muffler effectiveness, and becomes at the same time, a standard for future developments contributing toward even greater quiet on our waterways.

The most imhportant contribution to quiet outboard operation lies in the standard of muffler effectiveness established by the tests conducted by the outboard motor manufacturers. Great promise for the future may also be predicted as a result of this research work, and practically noiseless outboard performance has been achieved.

Advertising index will be found on 3rd last page.



In building this 54 foot twin-screw yacht for you, A.C.F. has fitted it handsomely . . both inside and out . . with a restrained and unerring taste. : : It has just about everything you can ask of a boat . . a beautiful hull . . large, superbly fitted cabins . . more than generous deck space . . a spacious dining saloon and lounge . . a large bathroom, fitted with both a tub and a shower . . a galley that is both large and complete. : : In the "54" all of these blend into a luxurious craft on which you can spend the entire summer in complete comfort. You can take delivery of it at your yacht club, complete in every respect, just as you will see it if you come to our show-room now.

AMERICAN CAR AND FOUNDRY COMPANY

a.C.f.

217 WEST 57th STREET • • NEW YORK CITY

YARD AND SHOP

(*Continued from page* 174)

DODGE DISTRIBUTOR ANNOUNCED

Horace E. Dodge, president of the Horace E. Dodge Boat and Plane Corp., of New York, Detroit and Newport News, Va., announces through Frank Wigglesworth, president of the Atlantic Radio and Marine Corp., Inc., 20 Brookline Ave., Boston, Mass., the appointment of that firm as distributor for Dodge boats for the entire state of Massachusetts and also for the city of Portsmouth, New Hampshire.

Mr. Wigglesworth is one of the best known boat distributors in America. He is a leader in all eastern motor boat racing affairs, along with his other marine activities. His taking on of the Dodge line for 1930 indicates clearly that there will be great activity in the selling of these boats in that territory.

A new Acania, designed by J. H. Wells for Arthur E. Wheeler of New York

RADIO FOR THE CRUISER

America's radio audience probably will be increased by many thousands of listeners during 1930 as a result of successful installation of screen grid battery radio receivers on yachts and motor boats. With the perfection of the modern receiving set, broadcast programs may be enjoyed on the water as well as on shore. Editors of yachting publications estimate that there are fully a quarter of a million prospects for radio sets in the boating industry.

The Fairform Flyer, a standardized sea-going cruiser built by the Huckins Yacht Corporation of Jacksonville, Fla., was the first make of yacht to be equipped with radio and phonograph pick-up as standardized equipment. The Huckins Corporation selected the screen grid battery receiver perfected by the Crosley Radio Corporation, of Cincinnati, as part of the equipment of every Fairform Flyer.

The first of the 1930 Fairform models was launched recently and taken on a seventy-five mile trial trip. The radio performed surprisingly well, Frank P. Huckins reported in a letter to the Crosley corporation. Reception was as clear and natural as on shore, he said.

In perfecting receivers for marine use, radio engineers were aided by the development of screen grid tubes and circuits, which greatly reduce static interference and permit almost detailed selectivity of programs.

Battery sets equipped with screen grid tubes and circuits also possess an advantage of economy, the battery drain being estimated by Crosley engineers at 25 per cent less than was the case with the old type of battery receiver. The engineers have been able to build the power, selectivity and sensitivity of larger screen grid sets into the compact battery model, which was designed to fit in small spaces.

The boat owner who desires to install a receiver on his craft may erect a simple aerial by stretching a wire between two insulators attached to the masts, or to other supports seven feet or more above the deck. The ground wire may be attached to any bright metal parts (unpainted brass, coppper, or galvanized iron) below the water line. Otherwise the receiver is installed exactly as in a private home. The aerial and ground wires are connected, the battery cable attached to the proper terminals of the batteries, the Dynacone speaker plugged in and tubes inserted. Dry B and C batteries are required, but many yachts have six volt storage batteries for lighting which may be used as the A battery. In such cases it is not necessary to provide a special storage battery for this purpose, as required in home installations.

Radio transmission is more effective over water than over land, the water range being estimated roughly as twice the land range. There are no power lines, leaky transformers, etc., to interfere with one's reception on a boat.

Seagoing radio sets afford protection as well as entertainment to owners of motor boats. When storm warnings are broadcast from shore, small craft can scurry for shelter in time to escape the fury of the elements.

ANOTHER ACANIA

John H. Wells, Incorporated, well-known marine architects, have recently completed the plans for a 136-foot steel diesel cruiser to be built by the Consolidated Shipbuilding Corporation for Arthur E. Wheeler of New York City.

This magnificent yacht, to be called Acania, the same as Mr. Wheeler's present Wells-designed yacht, will be one of America's most modern and luxurious craft. She will be launched in the late Spring.

Her steel hull measures 134 feet 2 inches at the water line, with a beam of 23 feet 1¼ inches and a draft of 8 feet 9½ inches. She will be powered with two airless injection Winton diesel six-cylinder engines, developing 375 h.p. each at 425 r.p.m.

Her outside finish will be of teak, which will also be used in the smoking room on the main deck. A large living room, panelled in walnut, a dining room finished in white enamel and the pantry complete the arrangement of this deck.

The berth deck will provide three double and one single staterooms, each with private tiled bath, as well as several lobbies and a large linen locker. The staterooms are models of convenience, being carefully arranged and most luxuriously furnished.

Also on this deck is the forecastel, sleeping eight men, the officers' mess, and staterooms for five officers.

The boat deck contains the captain's quarters and the pilot house. Her equipment includes three small boats built by Consolidated.

Acania will be used for extensive offshore cruising, and will be a notable sight at fashionable yacht clubs in ports along the Atlantic Coast and in Southern and West Indian ports. She will be the last word in grace and beauty, without sacrificing the staunchness and seaworthiness so necessary in an ocean-going craft.

NEW ENGLAND DISTRIBUTOR APPOINTED

Gar Wood, Inc., has announced the appointment of The Stearns Marine Service Company of Boston, Mass., as distributor for the New England states. Milton Stearns, president of the corporation, is one of the most widely known men in the business, a dyed-in-the-wool waterman who has done much to popularize the sport throughout the east. He was one of the pioneers who advocated standardized runabouts.

Mr. Stearns plans to have sales and service branches throughout New England and expresses confidence that this year will be the biggest the motor-boat industry has enjoyed.

Raymond Skilton, who is associated with Mr. Stearns in the distributorship, is almost equally well known in the business. He will have charge of the Hartford Marine Sales, Hartford, Conn., but will not confine his activities to that point entirely.

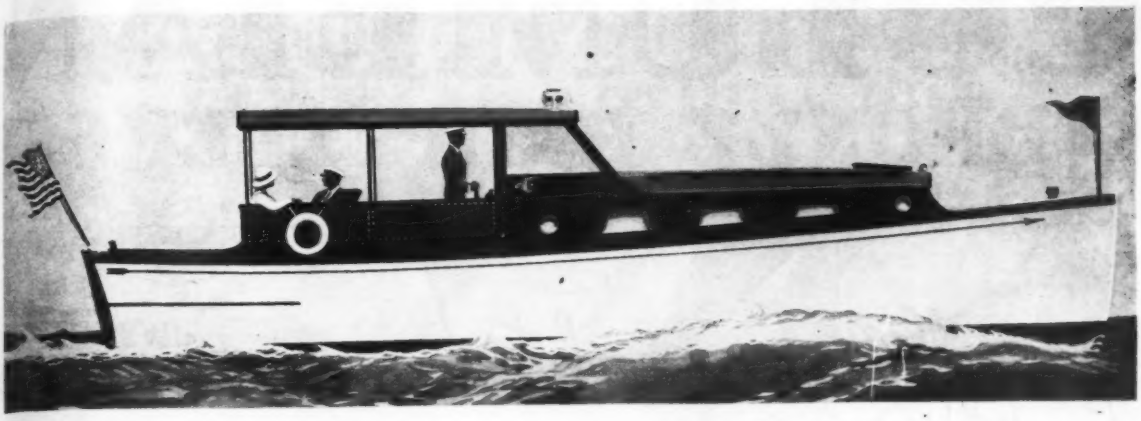
Gar Wood, Inc., in their announcement of the new distributorship, are enthusiastic in this notable addition to their increasing list of dealers and distributorships.

A new type of Crosley radio set, developed for yachts and cruiser use

BOSTON HOLDS FIRST BOAT SALON

A new idea in motor boat salons was carried out at Boston during the past week when all dealers in marine supplies and equipment organized a show for spectators who cared to visit the display rooms by means of interlinking bus systems. Each showroom was decorated for the occasion and fitted with the 1930 models as exhibited at the recent New York Show. Spectators were taken from one showroom to another in a fleet of busses chartered for the week. (*Continued on page* 182)

Announcing—

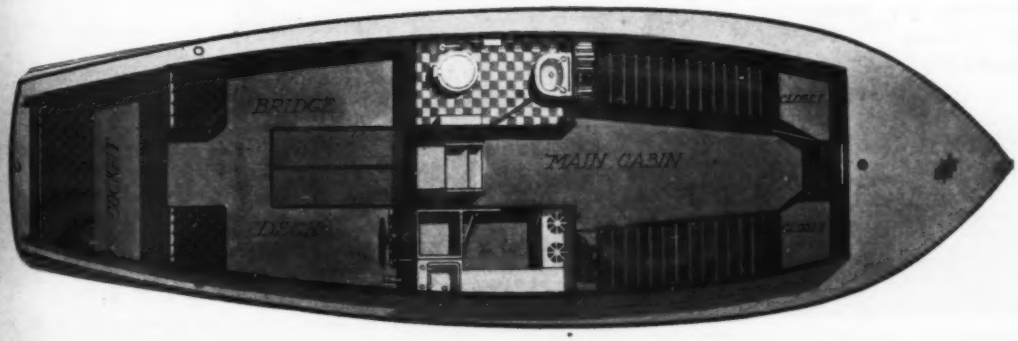


THE SEAWOOD CRUISERS

AT last naval architecture has produced the ideal small cruiser—a bridge deck thirty-two footer of generous beam, and seaworthiness of an ocean liner. A craft which surpasses all others of its size; a boat which offers a roominess of accommodations found only on a forty-footer. For instance, this new Seawood Cruiser has an all-enclosed and complete galley, spacious lavatory equipped with the latest sanitary fixtures, bureau, two large full length closets that are actually usable, sleeping accommodations for four in cabin and two on bridge deck which may be enclosed by drop curtains at night for privacy. Aft of the bridge is a self-bailing sunken cockpit with comfortable stern seat. Briefly, the Seawood Cruiser is better in appearance, more livable, roomier and costs less than any other thirty-two footer on the market.

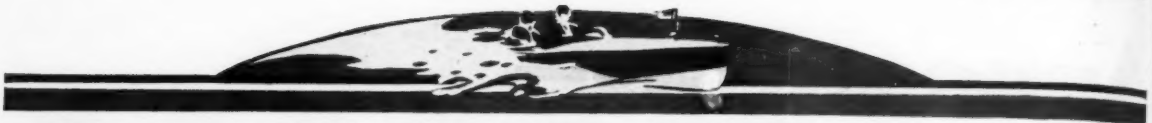
Write today for full information on the Seawood Cruiser, also for particulars on the custom model which has special fittings and furnishings, including Chromium hardware and trim, and fire protection system.

For the junior yachtsman we have designed a speedy, low-priced, sixteen foot inboard powered runabout. See it at our showroom, or write now for complete details.



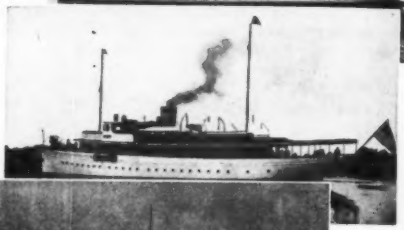
SEAWOOD CORPORATION

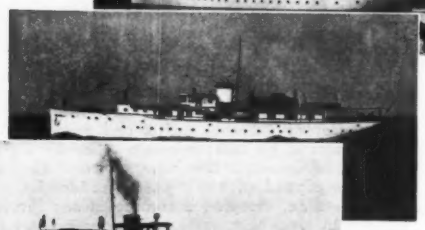
16 W. Sixty-First Street at Broadway, NEW YORK, N. Y.

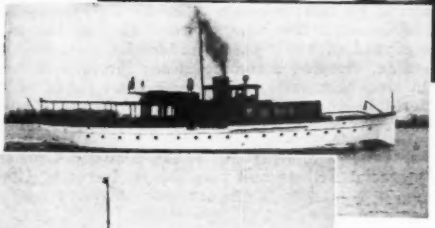


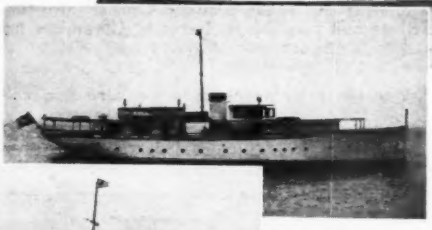
COLUMBIAN
BRONZE PROPELLERS

propelling 7 Defoe Yachts!









Within the last couple of years, Defoe Boat & Motor Works, Bay City, Mich., have purchased Columbian Propellers for the seven beautiful yachts pictured here, as well as for a large number of tenders and other smaller craft.

When, as is widely known, the most extreme care is used in the selection of every part and accessory that goes into a Defoe boat, the continued preference for Columbian Propellers tells its own story of quality!

Cap'n Allswell says:

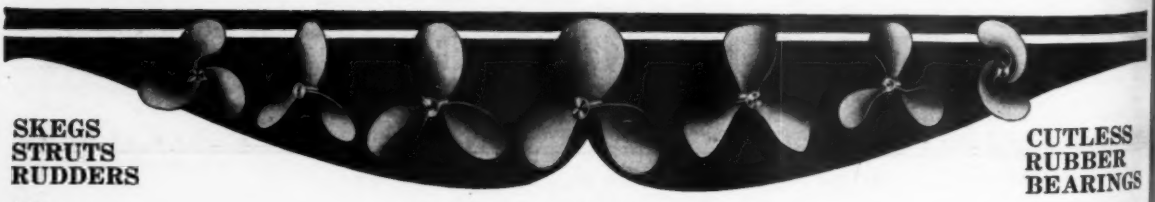
"Columbians are known by the friends they make!"

Whether you are interested in propellers for sizable craft, or merely for your outboard motor, it will be to your interest to send for our new catalog "Propellers in a Nut Shell."

THE COLUMBIAN BRONZE CORP.

208 N. MAIN ST., FREEPORT, L. I., N. Y.

Representatives: Detroit, Henry H. Smith & Co.; San Francisco, H. A. B. Snevo Co.



SKEGS
STRUTS
RUDDERS

CUTLESS
RUBBER
BEARINGS

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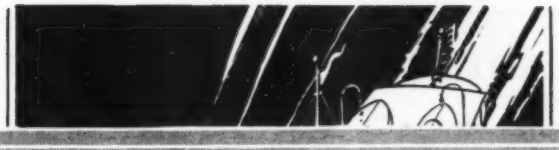
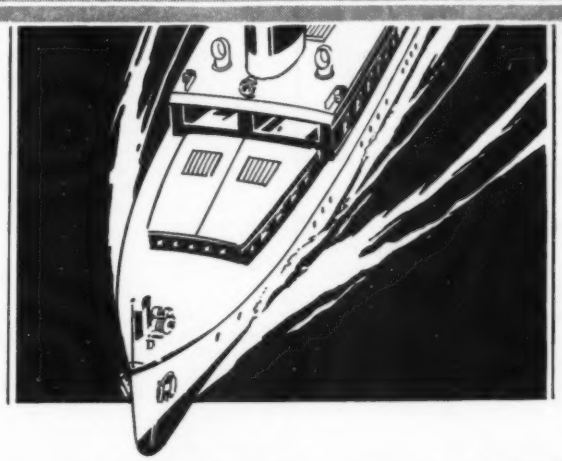


HEAVY LOADS AND EXTREME HEAT MEAN NOTHING TO—



EMPIRE DIESEL OIL

Even after a long straining run at top speed, there are still long hours of dependable lubrication left in EMPIRE Diesel Lubricant. EMPIRE is not an ordinary marine oil. It is especially designed, in collaberation with Diesel engineers, to meet the extreme loads of Diesel Engines—and is refined from pure Pennsylvania crude oil for ONLY that purpose. Free flowing . . . with high flash and fire tests, low free carbon content and containing no acid or impurities . . . EMPIRE retains its body under the severe tests of extreme heat and gruelling runs. Try it . . . and see!

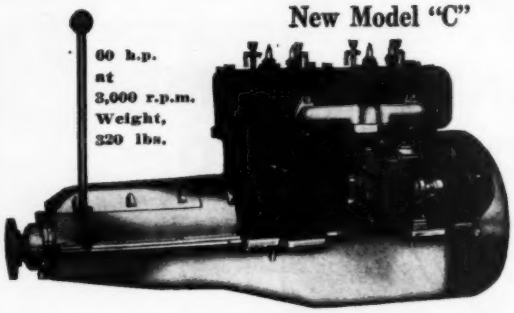
PERMIT No 98.

PENNSYLVANIA PETROLEUM PRODUCTS Co., Inc.

PROVIDENCE · · · R. I.

JOHNSTON MOTORS

New Model "C"



For fast Runabouts. Equipped with built-in Oil Cooler. A down-draft carburetor is supplied where extreme high speed is required.

Ask us about our Model "OX," 50 H.P. for cruisers, workboats or pleasure boats; our Model "AS," 40 H. P. for medium duty service; and our Model "J," 16 H. P. for general purposes, where small power is required—the lowest priced engine in America.

Write at once for details

ROBERTS MOTORS •• Sandusky, Ohio

Manufacturers of marine motors for 22 years from 10 H.P. upward

BOAT OWNERS
SAIL and POWER BOAT
OWNERS
DISTRIBUTORS
DEALERS

EMERGENCY

HOW MANY TIMES HAS THE THOUGHT ENTERED YOUR MIND—"IF THE FOLLOWING TROUBLES SHOULD HAPPEN, HOW WOULD I GET ASHORE?"
MOTOR TROUBLE—EMPTY FUEL TANK
DEAD IGNITION—DEAD CALM

A SAVAGE UNIVERSAL BRACKET
and an outboard motor will do
patented
the trick
Thousands in Use

SAVAGE BOAT CO., LTD.
585 Boylston Street
BOSTON, MASS.

YARD AND SHOP

(*Continued from page* 178)

THE DISTINCTIVE LUDERS 45

As a logical development of its 42-footer, the Luders Marine Construction Co., of Stamford, Conn., displayed for the first time at the recent New York Show a 45-footer of unusual interest. It attracted attention primarily because of its novel color scheme—silver topsides and white deck—but held attention by reason of its commodious, luxurious arrangements.

Descriptions of the interior arrangements of a motor boat generally begins with the crew's quarters forward, and work aft through the various compartments. In describing the Luders 45, however, one must begin aft with the fishing cockpit, and work forward, for, reversing the usual order, the after compartment of the boat is allotted to the crew. Lucky indeed are the captain and cook who gets jobs on this little ship, for instead of being huddled forward in a triangular forecastle with triangular bunks, they have a wide, high stateroom with berths of full length and width. No attempt has been made to give this stateroom a boudoir finish, but should the owner of the 45 prefer to sail without crew the space will be found acceptable to any guests who are in the slightest degree sea-going.

Immediately forward is the galley suitably appointed with gas range, icebox, sink, and so on, with stairs leading to the bridge deck. Room aft of the bridge deck is also found for a toilet, while emergency access to the engine compartment is gained through a hatch alongside the stairs. The engine space, beneath the bridge deck, contains two Sterling Petrels of 200 h.p. each, giving the boat a maximum speed of thirty statute miles, and a sustained speed of twenty-five miles.

The bridge deck is unusually large, and is ideal not only for navigating and lounging, but as an eating place. It is glass-enclosed forward, and with its high sides provides admirable protection from the elements. The canopy, lined with sound-deadening material, is finished in silver, and the wheel, cushions, and other appointments are of a coral tone which tastefully blends.

Access to the owner's cabin forward is by a companionway on the port side. Here is a combination stateroom and saloon in which every effort has been expended to produce comfort and esthetic value. As a departure from the conventional cream-and-mahogany, the paneled sides and overhead are finished in a special silver tone of pastel effect. On the port side is a berth which when not in use folds into the paneling. To starboard of the center table the folding berth is fronted by a transom seat which continues at a right angle aft. Large plate glass windows admit light to the compartment. On the starboard side forward is the enclosed toilet, while to port a hatchway communicates with the forward self-bailing cockpit which seats four in a wide, comfortable transom.

The boat is equipped with an unusually well conceived system of ventilation for compartments and bilges, the builders contending that the fire risk is reduced to nil in a perfectly ventilated hull. As a final protection against fire the Lux extinguishing system is installed.

Viewed from outboard the first feature to attract the eye is the bow light which is an integral part of the stempiece. This novelty, for which a patent is pending, has the advantage of keeping the glare of the light from the deck, while adding to the beauty of the bow. The streamlines of the superstructure, characteristic of Luders boats, give unusual distinction to the new one. So effectively have the portions of hull, deck-house and bridge enclosure been determined that the 45 defies length classification. To some eyes she looks like a 75-footer; to others she has the exquisite perfection of a small model. In actuality she is one of the most handsome and luxurious express cruisers of the new year.

NEW BURGESS SNAPLITE FLASHLIGHTS

Keeping up with the popular trend—more colors and more attractive designs, the new Burgess SnapLite Flashlights promise to be a real sensation in the 1930 flashlight market.

Brilliant in colors, and truly modernistic in design the SnapLite is certain to create even greater consumer attention than in the past year.

Of exceptional interest is the variety of gay modern designs and colors that prevail in both the No. 2 and No. 4 sizes. Five new designs are available in the No. 2 and two designs in the No. 4—each in a different color combination.

New and attractive counter displays have also been designed to hold the new SnapLite. The dealer package of No. 2 is 20 of two displays of 10, one for the window and the other for the counter. Each display consists of 2 each of the 5 new designs. The No. 4 dealer package consists of 1 display of 10 or 5 each of the 2 new designs.

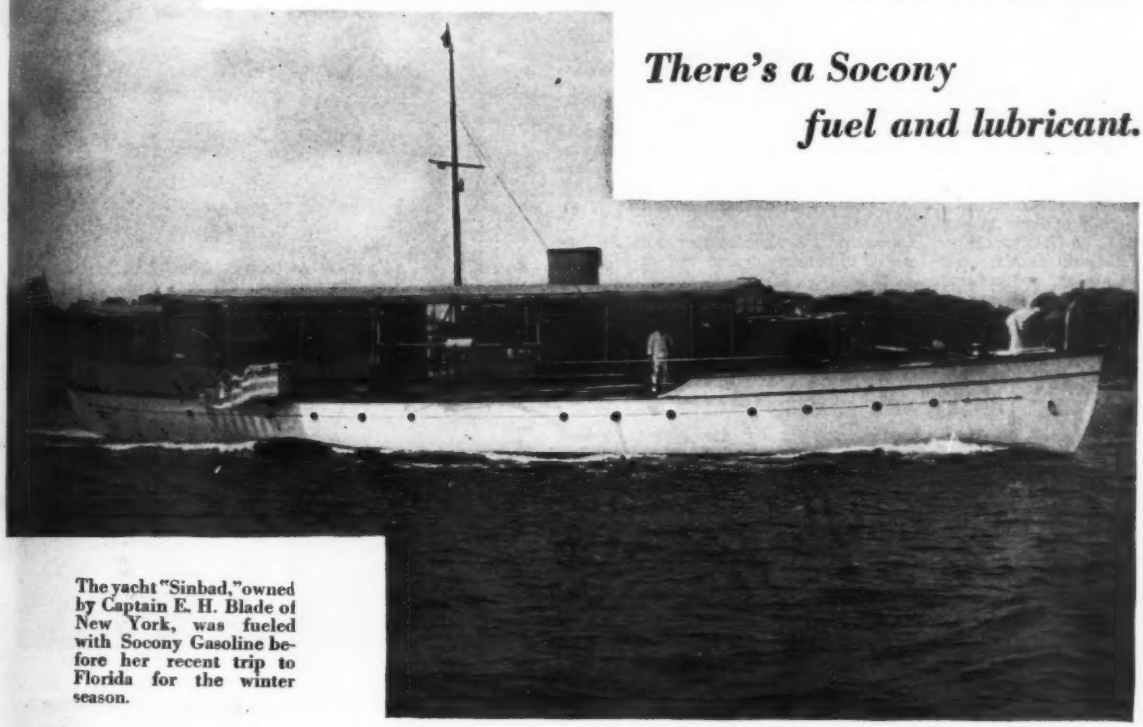
Your jobber has them in stock.

(*Continued on page* 184)

Advertising index will be found on 3rd last page.

For the Largest YACHT and the Tiniest OUTBOARD

There's a Socony fuel and lubricant.



The yacht "Sinbad," owned by Captain E. H. Blade of New York, was fueled with Socony Gasoline before her recent trip to Florida for the winter season.

WHATEVER kind of boat *you* have, *we* have the proper fuel and lubricating oil for it. The line of Socony products covers the complete range of water craft, from the tiniest of outboards to the largest of yachts. If your boat uses gasoline and motor oil, we recommend Socony Special plus Ethyl and the proper grade of Socony Aircraft Oil. If she's Diesel-powered, she'll run best on Socony Diesel Fuel Oil, with Socony Turex Oil as a lubricant. For your convenience, Socony marine stations are located at all the important points in New York and New England.

SOCONY

Diesel Fuel Oil · Turex Oil · Gasoline · Motor Oil · Special Gasoline *plus* Ethyl · Aircraft Oil

STANDARD OIL COMPANY OF NEW YORK

YARD AND SHOP

(*Continued from page* 182)

DELAWARE RIVER STARTS EARLY

BELIEVING that an early start is the battle half won, yachtsmen of the Delaware River have drawn up a very ambitious racing schedule for 1930. Outboards and speedboats will be more active than ever before, and class races for other types of boats have been arranged to provide for an abundance of competition for every type of power craft. Trophies galore will be on hand.

Plans of the sailing contingent have not been completed for the season, although the Corinthian Yacht Club has just announced its plans for a 1931 ocean race from New London, Conn., to Cape Hatteras, and finish at Cape May. The Corinthians have not mapped out their 1930 plans.

Sunday has become an increasingly popular day on the schedule, and other clubs are expected to pick several open Sundays for their events, for which no date has as yet been selected. This would include the Norristown M. B. C., Upper Delaware Outboard Association, and several down-river outboard bodies, all of which are planning very active seasons.

The third annual Philadelphia Outboard Regatta for the classic $6,000 Sir Thomas Lipton trophy, will be held on the Schuylkill River August 8 and 9, it has just been announced by Commodore William Freitag, of the Philadelphia Outboard Regatta Association. That event has the active support of the Chamber of Commerce, and will probably set a new record this year for attendance of spectators and competitors also. The committee is already actively at work.

The Delaware River Yachtsmen's League campaign opens June 21 with a dual class regatta of Farragut and Forest Hills, at Camden, and continues with regattas at all corners of the river until the closing event September 14. That event will be the annual 54-mile cruiser race from Essington to Reedy Island and return for the Camden Y. C. trophy. As usual the Chesapeake Bay cruise of the Riverside Yacht Club is scheduled for the first week in August and will have the cooperation of the League.

THE DELAWARE RIVER YACHT CLUB

Commodore A. B. Cartledge,owner of the express cruiser Diana, former express cruiser champion of America, was recently re-elected for his fifth term as Commodore of the Delaware River Yacht Club, of Torresdale. Commodore Cartledge has headed the club ever since its organization.

Emil A. Mathias, owner of the 70-foot yacht Vigilant, was elected vice commodore; W. W. Anstine, owner of the 40-foot bridge deck cruiser Myrtle, is rear commodore; John P. Robinson, owner of Afterme, is secretary; William Zimmerman, who recently acquired a new auxiliary yawl, is treasurer; and John F. Pollard, of Pollard Marine Co., is measurer.

Directors elected are, until 1931, E. W. Bureau and R. L. Phillips; until 1932, Wayne M. Barker and Geo. Gilpin, Jr., until 1933, F. R. Borton and Carl Mayer. John Wanamaker, Jr., was appointed chairman of the Regatta Committee, which consists of Wayne M. Barker, A. B. Cartledge, Jr., John F. Pollard, W. W. Anstine, H. H. Demmert, and H. Barton Lewis. Other committee chairmen are, membership, Geo. Gilpin, Jr.; entertainment, Robert Wilson, Jr., house committee, L. H. Wells; mooring, W. W. Anstine, and junior regatta committee, Robert Wilson, Jr.

THE COLUMBIA YACHT CLUB

Commodore A. B. Cartledge, owner of the express cruiser Quirl, and president of the Delaware River Yachtsmen's League, has been re-elected commodore of the Columbia Yacht Club of Philadelphia, at that club's annual meeting recently.

Other officers elected were Vice Commodore August Koliver; rear Commodore, James Mann; secretary, August Koliver; treasurer, J. Max Hirsch; and trustees, Carl Mayer, James Frederick, James Mann, Arthur Gooden, John Bowes, George M. Best, Frank Schmitt, William McKnight, Peter Jordan, J. Max Hirsch, William Schmitt, August Koliver, and Nils Nilson.

BOSTON INNER HARBOR CHARTED

A new edition of U. S. Coast and Geodetic Survey chart number 248 of Boston Inner Harbor has just been issued by that service, according to Lieutenant Commander R. F. Luce, in charge of the Boston office of that service at 92 State Street.

In addition to showing the results of recent surveys of various parts of the inner harbor, a complete revision has been made of the piers and waterfront properties and the street layouts throughout the locality covered by the chart.

The chart includes, on a scale of .1 to 10,000, Boston Inner Harbor west of Governors Island and between South Boston on the south and Everett, Chelsea, and the Mystic River on the north.

SECOND COMPETITION AT LIDO

Following the successful termination of the first international motor boat competition held last fall at Lido, Venice, the sponsors of this regatta have announced their plans for a second meet to be staged from September 17-21, 1930. Prizes and cups to the value of 300,000 lire have already been secured, with contests for unlimited racers for the world's speed record on a nautical mile course, a circuit race for unlimited racers, and international twelve-liter series, a limited cruiser race and several other events which include international contests for outboards in classes B, C, D, and F.

In order to stimulate interest among possible competitors from foreign countries, arrangements have been made to secure reductions on transporattion rates, on the Italian railways and free ac transportation on boats from the United States and Great Britain to Italy and back. Entries will be closed on August 31, 1930.

Admiral H. A. Wiley, U.S.N. retd., now a vice-president of the Henry J. Gielow organization

ADMIRAL WILEY JOINS GIELOW

Admiral H. A. Wiley, U.S.N. retired, has been elected a vice-president of Henry J. Gielow, Inc., naval architects with offices at 25 West 43rd Street, New York City. The appointment follows upon Admiral Wiley's recent retirement from active duty as commander of the U. S. Battle Fleet.

From the date of his graduation from the U. S. Naval Academy in 1888, Admiral Wiley has been continuously in active service. He served as a midshipman until 1890 when he received his ensign commission. On January 1, 1916, he was promoted to a captaincy and given command of the U. S. S. New Jersey. In June of the same year, he was transferred to the U. S. S. Wyoming, and given command of the Atlantic fleet.

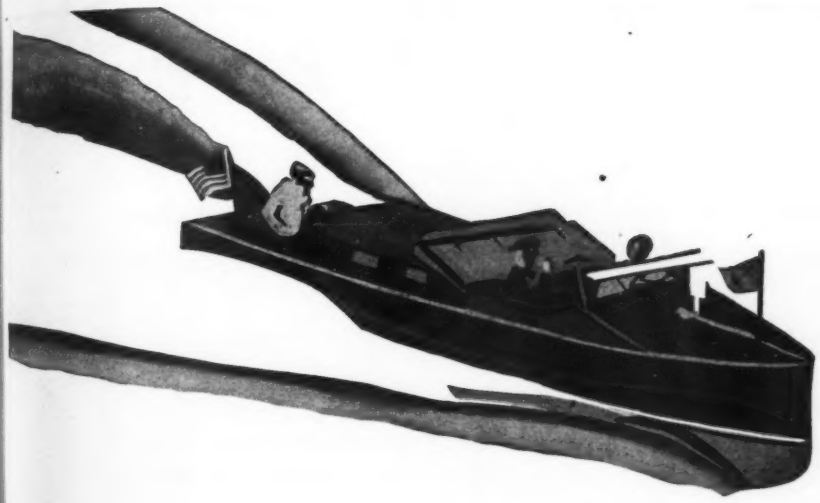
At the outbreak of the World War, his command joined the British Grand Fleet at its Scapa Flow base and served with that unit throughout the duration of hostilities.

After the Armistice, he became American representative on the board to enforce the naval terms of the peace treaty. He was recalled when President Wilson refused to allow this country representative to enter Germany.

Upon his return, he took command of the destroyer squadron of the Pacific Fleet and served thereafter in the War College, Newport, R. I., in the Navy Yard at Boston until 1923. Then he proceeded to his command of the battleships of the Battle Fleet with the rank of Rear Admiral.

He was relieved in 1925 and ordered as a member of the General Naval Board at Washington, D. C. On November 1, 1927, he was given command of the entire Battle Fleet with the rank of Admiral. He was relieved May 21, 1929, and retired voluntarily from active service September 30, 1929.

(Continued on page 186)



More Speed . . . More Comfort . . . With Instruments to Correspond

Power boats require instruments that are both sensitive and rugged. Pioneer Marine Instruments are made to the same high standards as Pioneer Aircraft Instruments—accurate, immune to vibration and climatic changes, and easy to read by day or night.

Representative Items

Pioneer Marine Compasses—In types to meet every marine requirement. Steady under all conditions.

Pioneer Barometer—Fully jeweled and equipped with pure nickel chain to assure accuracy and long service.

Pioneer Clock—8 day movement. With Time-of-Trip Indicator.

Pioneer Centrifugal Tachometer—Ball-bearing movement. Measures engine revolutions smoothly and accurately. Facilitates maintenance of equal speeds in twin motors.

Pioneer Marine Instruments are made in uniform sizes and are easily installed. Instrument panels are furnished in any color combination, and in special designs.

Write for catalogue. It describes a complete line of Marine Instruments.

Get acquainted with Pioneer Instruments. Send 50c and we will include a Pioneer Course Protractor. It is convenient and accurate. Every boatman should have one.

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DIVISION OF BENDIX AVIATION CORPORATION

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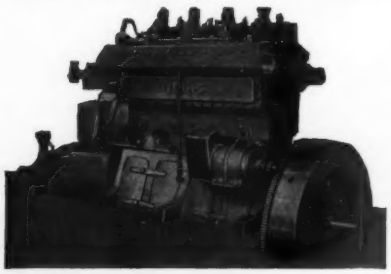
Ideal for Yachts . . . Safe Power . . .

Four Cylinder
40-60 H. P.



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Our Type AE Yacht Diesel engines will increase the cruising radius of your boat many times, at the same time using a cheap fuel which is safe. No small Diesel Engine is giving more dependable, smooth power than this

STANDARD YACHT DIESEL

Specify this engine for your boat and enjoy the coming season

STANDARD MOTOR CONSTRUCTION CO.
178 Whiton Street, Jersey City, N. J.

STANDARD YACHT DIESELS

YARD AND SHOP

(*Continued from page* 184)

NEW RUNABOUTS OFFERED

The Hacker Boat Company of Mt. Clemens, Michigan, introduced four new models at the New York Motor Boat Show.

The 24-foot 9 to 10-passenger Hackercraft is a very handsome design, incorporating those features of speed, renowned workmanship and high quality materials which have long since made Hacker boats famous, not only in Europe and Asia, but in both North and South America. This model is powered with the Gray eight to give 35 miles per hour.

The 26-foot Hackercraft has won the enviable reputation of America's fastest runabout. In Europe during the 1929 racing season, this model won the International Runabout Championship of Europe. The Tatler Trophy, in which nine of Europe's fastest racing boats in this class were entered, fell to the speed prowess of this fast model. This year the 26-foot Hacker boat will use the 225-h.p. Kermath to give it driving speeds up to 46 miles per hour.

The 30-foot Hackercraft attracted a considerable amount of attention at the Motor Boat Show. It has long been conceded an enviable reputation for beauty. It is built, like all other Hackercraft, from genuine Honduras mahogany, has double planked bottom, is copper riveted throughout, has genuine leather deep spring cushioned seats and seat backs and represents a most unusual type of luxurious water travel for the sophisticated yachtsmen. Its power is the valve-in-head, six-cylinder, 225 h.p. Kermath to give 42 miles per hour.

Among the outstanding attractions at the Show was the new Hackercraft 38-foot Cruiser Commuter. This V-bottom all mahogany boat has full cruising facilities for four, including Pullman berths, galley, toilet, clothes locker, etc. Twin screw 225-h.p. Kermath engines give this brilliant boat the astonishing speed of 42 to 43 miles per hour. It is perhaps the fastest cruiser, power considered, that has ever come from the drawing boards of any designer. John L. Hacker, N.A., considers it an outstanding achievement in both speed, graceful handling qualities, and in staunch buoyant grace. This boat was easily one of the prominent features of the National Motor Boat Show.

ELDRIDGE ELECTED COLONIAL COMMODORE

New officers were elected and a board of directors chose[n] the regular meeting of the Colonial Yacht Club, held at Hotel McAlpin on December 23. William M. Eldridge was elected as the new commodore, Vivian Green, vice commodo[re] Henry C. Foster, rear commodore, and Robert L. Simon, [se]retary and treasurer.

The Board of Directors will include Ira Hand, chairman, J[oe] Heilner, Frank Totten, Frank Borick, Edward Wasser, Joe [Ro]benthal, Vivian Green, Charles Biberman, Eugene Cohn [and] Herbert Stone.

CHICAGO BOAT SHOW SPACE HALF SUBSCRIBED

Nearly half of the available space at the Navy Pier has b[een] taken up by manufacturers who will exhibit there during [the] Chicago National Motor Boat Show, according to Hubbard Erickson, manager of the exposition to be held there [from] 25 to May 3.

The show, supported by a civic committee headed by Sh[ip] Clark, will be a combination indoor and outdoor exhibit, [as] possible by location of the pier on the lake front.

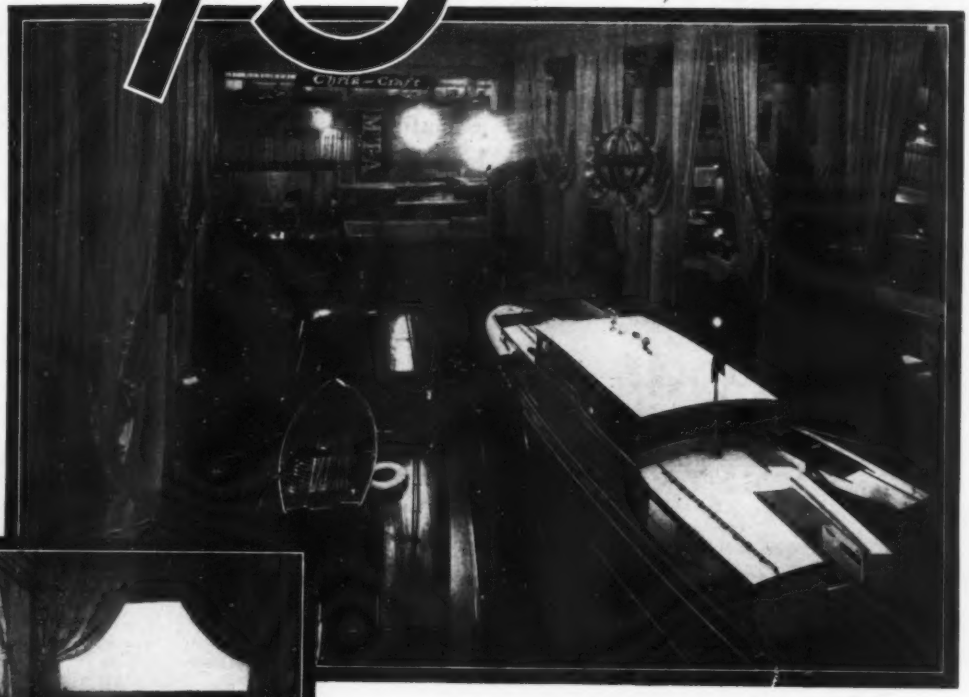
Final figures on the value of the exhibits at the Silver An[ni]versary Motor Boat Show as compiled by the National Asso[cia]tion of Engine & Boat Manufacturers are as follows: Cr[aft] $589,795; engines, $481,500; runabouts, $223,460; outb[oard] motors, $64,725; outboard hulls, $46,743; accessories, $14[8] total $1,554,268.

A list of motor boat shows scheduled for this spring follo[ws]: March 8-15, Los Angeles; April 15-20, Northwest Motor B[oat] Show, Seattle; April 23-30, Pacific Coast Boat Show, San Fr[an]cisco; April 25-May 3, Chicago National Motor Boat Show

(*Continued on page* 188)

Advertising index will be found on 3rd last page.

MORE THAN 75% of ALL SHOW CRUISERS



Photographic endorsement of Sands Bathroom Fixtures by one of the greatest names in the boating industry—CHRIS-CRAFT.

Write for catalog

EQUIPPED WITH

SANDS
Plumbing Fixtures

THE world's largest and finest exhibit of luxurious pleasure cruisers has just closed. Shown at that exhibit were yachts that represented the ideals of the master boat builders, marine architects and yachtsmen of America—manifestly the last word in cruiser construction and equipment—millions of dollars have been expended in plants for the production of these boats—builders have staked fortunes upon their judgment in designing and in selecting the best equipment. Considering all that is depending upon these sample boats it means something to know that more than 75% of them were equipped with Sands Plumbing Fixtures. The Builders of more than thirty cruisers selected Sands equipment as being the most likely to attract prospective customers and give satisfaction to buyers.

Among the Sands equipped Show cruisers were the following:

A-C-F	DAUNTLESS	RICHARDSON
CHANCE	ELCO	ROBINSON
AUTO-HYDRO	HUMPHREYS	WHEELER
CHRIS-CRAFT	JOHNSON	WHITNEY
CORSAIR	LUDERS	

Such convincing evidence should prove to anyone that Sands Fixtures are the most desirable.

A. B. SANDS & SON CO.
20-24 Vesey Street **New York City**

COPPER BOTTOM PAINTS

"New Jersey"

TOP SIDE PAINTS

When you use paint, get quality and save your boat

Insist on "New Jersey" Brands

They are used by all the leading boat builders who demand paints that will hold up under all climatic conditions

The Paints That Satisfy and Wear Longest

SHIP AND DECK PAINT

12 Popular Colors

Have you tried the new Color, Reddish Buff? It is the best Deck Paint and wears like iron.

COPPER PAINT

RED GREEN BROWN

Worms cannot hold on, you can haul out and find the bottom clean.

YACHT WHITE

FOR EXTERIOR WORK

Try this paint above the waterline. Stays white, can be washed and scrubbed. Excellent for cabins.

Sold by marine supply stores, or write to us for address of your nearest dealer

NEW JERSEY PAINT WORKS

Wayne and Fremont Streets — HARRY LOUDERBOUGH, INC. — Jersey City, New Jersey U. S. A.

Write for booklet—"Davy Jones' Locker" giving valuable information on painting, sent free

YARD AND SHOP

(*Continued from page* 186)

A SMALLER YACHT CLOSET

This new yacht closet has been designed to fill two distinct needs. First—to bring a modern plumbing fixture within the scope of small craft such as day cruisers, outboards, speedboats, runabouts and the like. Second—for use in larger craft as an extra fixture where the conservation of space is essential.

This closet, called the Junior Seaclo, is produced by Wilcox, Crittenden & Co., Inc., of Middletown, Conn., manufacturers of marine hardware for 83 years. It is a compact, complete pump closet only 11½ inches wide and 15 inches high. The 2½-inch diameter combined supply and discharge pump gives an ample supply of water and effective flushing. It is supplied with an anti-fouling, self-locking hand supply valve. This fixture can easily be concealed under a seat or transom in the smaller type of craft.

The addition of a special marine concealed hinge cover makes the Junior Seaclo particularly adaptable as an additional convenience in double-cabin cruisers, in the crew's quarters of larger boats and innumerable other places.

All Seaclo yacht closets have bowls of snow-white china which are twice fired to insure strong, fine texture and beautiful lustre. The newly designed double duty pumps of special bronze are equipped with the Invisible Air Vent, which eliminates the dreaded vacuum kick and hard work when the supply valves are closed. The specially treated leather packings are the only parts of each pump which are not bronze. The entire pump is simple in construction and can be dismantled easily.

All the Wilcox-Crittenden yacht closets are equipped with the nationally known Church seats made to special designs which are available in 18 different color effects—an assortment of nine each sea pearl finishes and plain tints.

NEW A. P. B. A. MEMBER

At a recent election the North West Outboard Association became a member of the American Power Boat Association. The North West Association is located at Seattle, Washington.

WATER TAXIS

Motor boating, with its attendant thrills and pleasurable e tertainment far from crowded city streets and almost equa crowded highways, has grown in popularity until makers finding it difficult to cope with the ever-increasing demand craft of all types, and this has brought the speed-boat livery being.

Gar Wood speedboats are used in this boat livery at Palm Beach, Fla.

Florida, at this season of the year, is the playground water ground of the continent and speedboat taxis are reapi golden harvest renting boats to individuals and parties. On the best of the livery stations is here pictured. It is a deci ornament to the water front at West Palm Beach, and the Wood boats which it rents and runs have infected many a c visitor with the lure of the sea.

(*Continued on page* 190)

For all types and sizes of boats, 9-200 h.p.

Ask about these before you buy your next motor

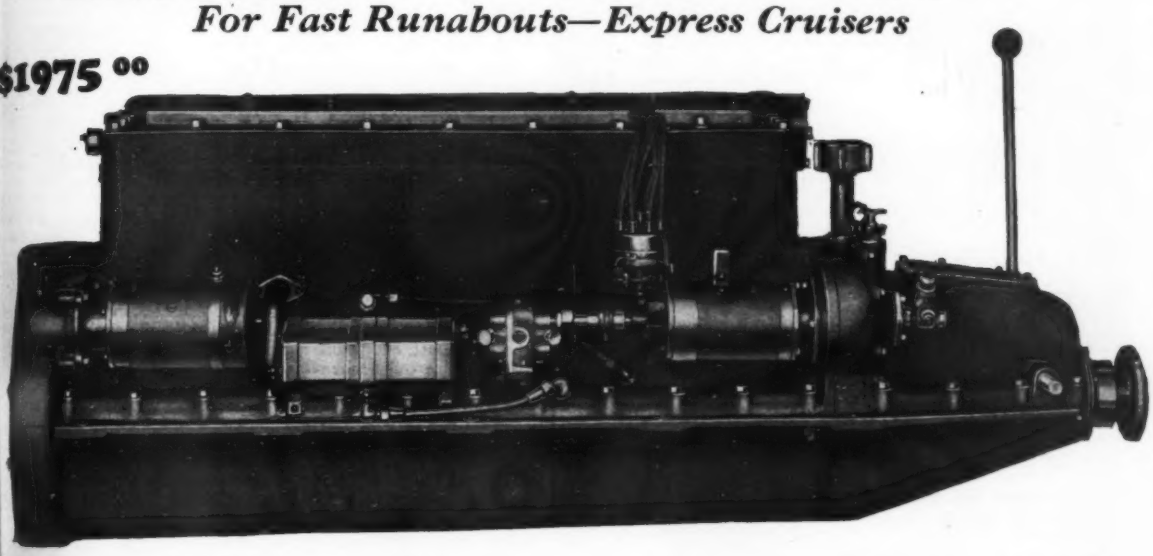
THE POWER OF NIAGARA
Niagara
MARINE ENGINES

200 H.P.

MORE SPEED—LESS WEIGHT (942 LBS.)
—MORE POWER—LESS BULK

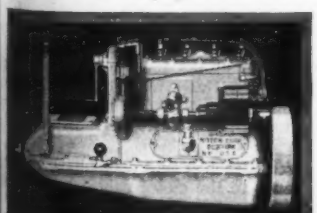
For Fast Runabouts—Express Cruisers

$1975.00



THE new 1930 Niagara Eights are the last word in up-to-the-minute latest design. Genuine marine engines, with a maximum power and minimum weight and size—yet withal sturdily built, 2¾" crankshaft, 5 main bearings, full force feed oiling. Sizes 125/135 H.P., 150/155 H.P., 165/170 H.P., 190/200 H.P.

EQUIPPED COMPLETE without or with Built-in SUPERCHARGER, these 8-cylinder Niagaras range in price from $1275.00 to $1975.00. ALL MODELS EQUIPPED with reduction gear when specified. FOR TWIN SCREW installations made in right and left hand.



Above: the Niagara 12-16 h.p. 1930 "SPECIAL" — well-known for its efficiency and silence of operation from slowest speed to 1800 R. P. M.

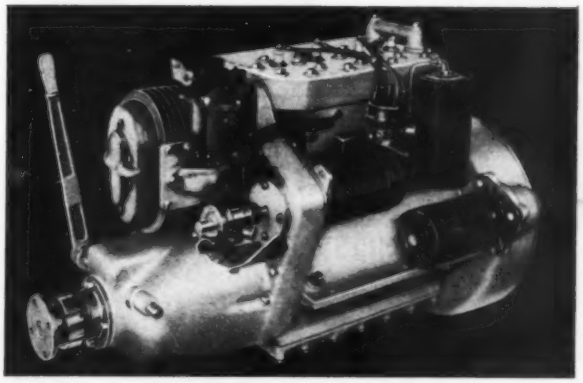
NIAGARA "FOURS"

$246 to $675

For Smaller Fast Runabouts. The sensational HSS model, supercharged, weighs only 358 lbs. Developing 60-70 h.p. Overall length 37½" complete with reverse gear.

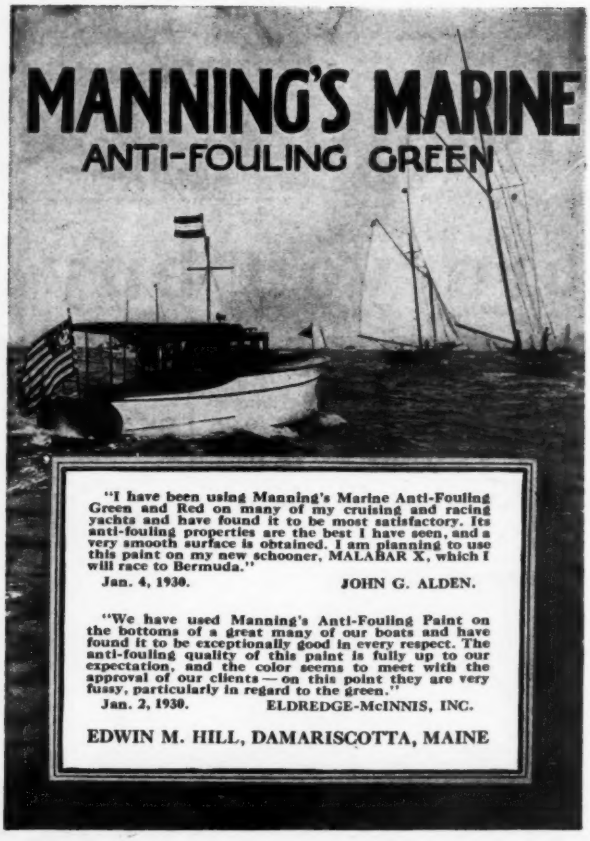
Model HS. Standard equipment, no supercharger, 40-45 h.p., only 311 lbs.

Write for catalog. Give size of boat or h.p. interested.



Supercharged 4-cylinder 60-70 h. p. 358 lbs.

NIAGARA MOTORS CORPORATION—DUNKIRK, N. Y.

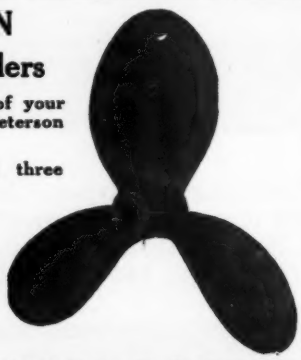

MANNING'S MARINE
ANTI-FOULING GREEN
"I have been using Manning's Marine Anti-Fouling Green and Red on many of my cruising and racing yachts and have found it to be most satisfactory. Its anti-fouling properties are the best I have seen, and a very smooth surface is obtained. I am planning to use this paint on my new schooner, MALABAR X, which I will race to Bermuda."
Jan. 4, 1930. JOHN G. ALDEN.
"We have used Manning's Anti-Fouling Paint on the bottoms of a great many of our boats and have found it to be exceptionally good in every respect. The anti-fouling quality of this paint is fully up to our expectation, and the color seems to meet with the approval of our clients — on this point they are very fussy, particularly in regard to the green."
Jan. 2, 1930. ELDREDGE-McINNIS, INC.
EDWIN M. HILL, DAMARISCOTTA, MAINE

PETERSON
Speed Propellers

Increase the speed of your boat by using a Peterson Propeller.

Made in two and three blades.

Write today for circular and prices



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ANNUAL FITTING-OUT NUMBER
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April Issue
FIFTY-CENTS
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Out April First

A PROGRESSIVE YACHT CLUB

IT is with pride and satisfaction that the members of the Bergen Beach Yacht Club point to the records of their 192 season, one of the most successful of its entire twenty-eight year history.

The present flag officers, William W. Pynn, commodore George H. Krier, vice-commodore; Charles H. Palliser, rear commodore; Dr. R. J. Kenna, fleet surgeon; Hugo M. Kruse fleet captain; E. L. Denton, recording secretary, and the various committees are delighted with the progress shown in membership, racing and general improvements in the club and fleet during 1929.

The various committees of the Bergen Beach Yacht Club, under the leadership of Commodore Pynn, have functioned so well that although the club is outside of the zone of electric light furnished by the lighting companies, the club house, float and grounds are bathed at night in a constant flood of light furnished by a two K. W. generating set installed on the grounds, a sight worth seeing. The runway for the hauling of the boats of the fleet has been extended by the house committee under the leadership of Captain L. Mertz, so that boats of six and one-half foot draft may be drawn up on the ways where only four-feet draft was allowable before, which means that boats fifty feet long with a draft of not over six feet may be taken out and stored for the winter months, or reconditioned on the spot at any time during the year. This is a very valuable asset to any yacht club. The entire fleet is stored on the club house grounds during the winter, with the exception of Captain William Rigoulot's nine-foot two-foot yacht, Tarolinta.

The Bergen Beach Yacht Club on Mill Island is blessed with having wonderful anchorage facilities of unusual depth, with a channel two hundred and fifty feet wide and an average of four feet deep extending into Jamaica Bay, which shore line has a less than twenty-eight miles of excellent cruising waterway. It is possible to cruise an entire day in the bay and not cover the same ground twice, or should anyone desire to try the course a bit, it is only forty-five minutes' run around Barren Island from the club house dock to Rockaway Point.

Captain Mertz, of the house committee, is busy at work preparing to increase the size of the already very large floats which will give docking facilities for the fleet second to none of any yacht club in Greater New York, while the rocking chair fleet have a most delightful enclosed veranda to enjoy the cooling cool breezes on a hot summer's day.

The Regatta Committee, under Captain R. J. Kenna, M.D., provided the Bergen Beach Yacht Club with a racing program run on points, consisting of five cruiser races, four sailboat races and four outboard races for the season of 1929. The principal race of the season was the cruiser race for the metropolitan handicap or Lord Tarvanish silver bowl trophy, presented to the club two years ago by Captain Herbert Berri, owner of the cruiser Oomeocsua, to be the property of the boat and captain who twice wins it in succession. It was won in 1928 by Captain E. Walters', Keep Smiling, and in 1929 by Captain H. Kruse's Gertrude K.

The course of these races started at the club dock, then around Barren Island to Nova Scotia Bar Light and return, a distance of seven nautical miles, and was hotly contested by Gertrude and Siren, who fought it out in each race for first place on points and was finally won by Captain Kruse.

Although there were four sailboat races scheduled, there was only one race sailed on account of the boats not being in commission at the starting dates. This race was for the commodore's loving cup and was over a triangular course of about nine miles starting from the red channel buoy to Nova Scotia Light, then over to the black spar opposite Barren Island and return. It was a most enjoyable and exciting event, won by Captain Berri's Marion.

The race for the silver cup placed up for the outboards by Captain Herbert Berri, was held over from 1928 and was won in fast time by Captain William Broistedt, in his Ceestepper Cyclone, and a 16-h.p. motor; a Ceestepper, driven by Captain Dayton, was second.

The ladies of the Bergen Beach Yacht Club have been very active and of great assistance to the club in their bridge parties which have been unusually successful, with an average attendance of over two hundred and fifty members and guests, the proceeds of which have gone a long way in beautifying the club house and grounds, and have produced that exquisite touch of personality which only the ladies know how to do.

The club's register shows a membership of fifty-two, among whom are the owners of thirty-eight boats of good size, ranging from sixteen to sixty-two feet in length, with twenty-six cruisers, six sailing boats, one Chris-Craft, and the rest outboards of large size and power. At least one new Fleetwing 40 will be added in 1930 by Captain E. Walters, who states that his new cabin cruiser will be ready April 1.

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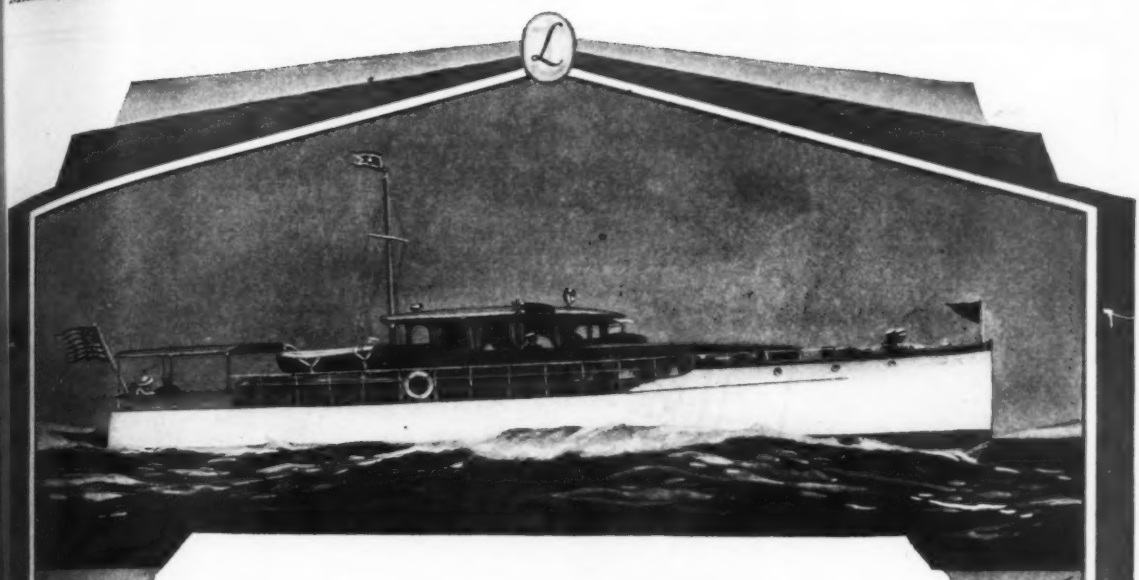
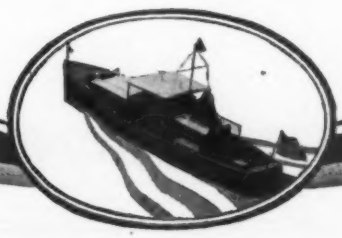


Luders 72, 45 and 42 Foot Commuter Cruisers for Spring Delivery

If you are the sort of exacting yachtsman who can find the most satisfaction in perfection, the incomparable joy of owning a yacht which adequately meets your standards can still be yours this summer. For the Luders craftsmen can still accommodate a very few orders in time for spring delivery. We suggest that you write for plans and specifications of the model which interests you most—or, if possible, inspect one of the luxurious Luderships now in the building or in storage at our yards.

LUDERS MARINE CONSTRUCTION CO.
STAMFORD ▼ CONNECTICUT



Your Copy is Waiting!

THE attractive new 1930 catalog illustrating and describing the internationally known line of dependable Erico and Kainer Marine Specialties is now ready for distribution.

If you are one of the many boat fans who are putting their craft in shape for a lively season ahead, or if you are a boat builder who is ever on the alert for the latest and best in Marine Hardware and fittings, the new Kainer catalog will serve you well.

Just fill in the coupon for your copy NOW while you think of it.

KAINER & COMPANY,
761-771 Mather Street,
Chicago, U. S. A.

Gentlemen: Send me a copy of your new 1930 catalog by return mail.

Name.....

Address.....

City..... State.....

I am: ☐ Boat Owner ☐ Boat Builder ☐ Jobber

KAINER & COMPANY
CHICAGO

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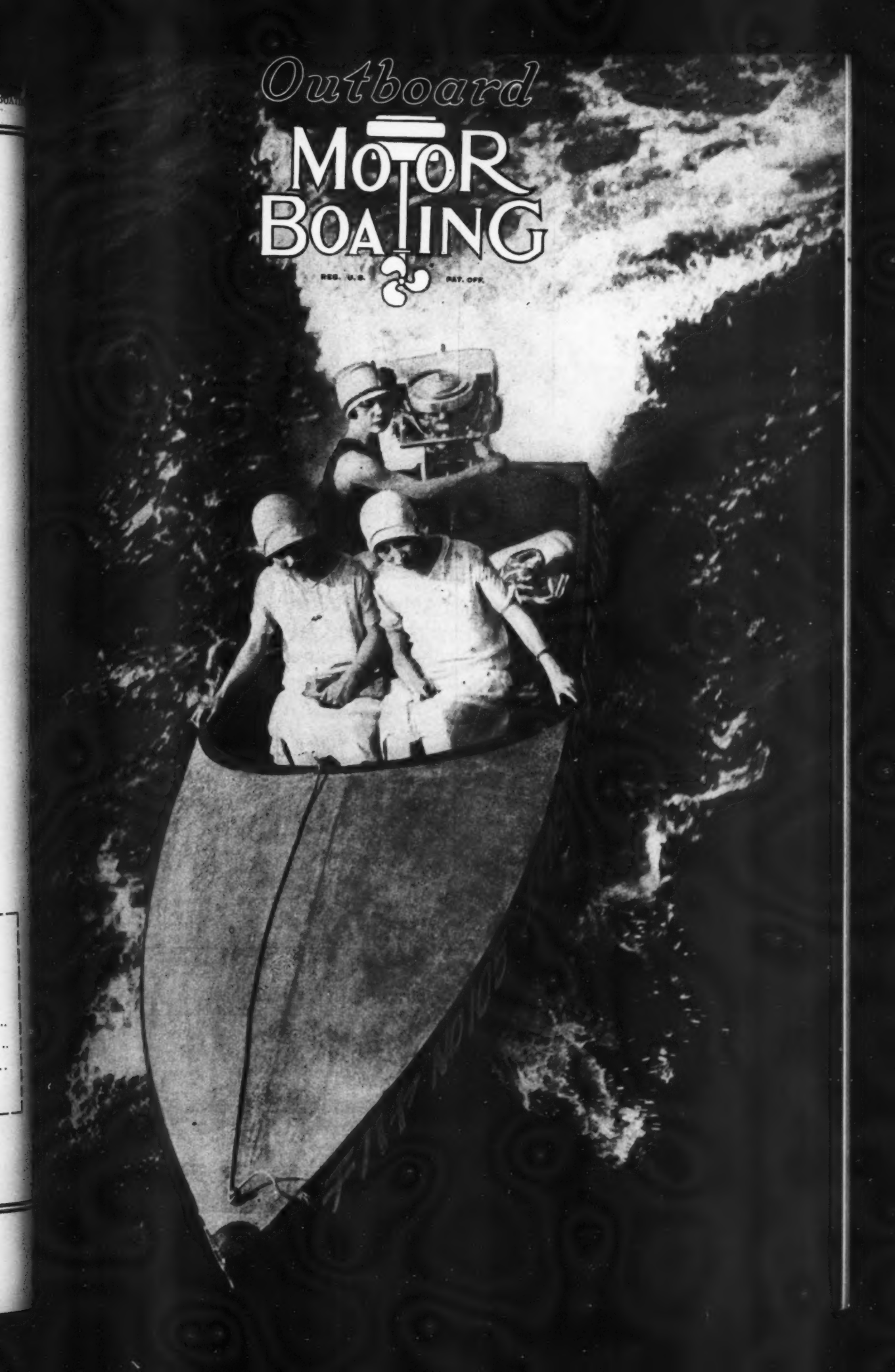
Outboard
MOTOR
BOATING
REG. U.S. PAT. OFF.

Dealers:

If you want to sell an oil that stands back of every claim you can make for it, ask us.

The White & Bagley Co., Worcester, Mass.

If Motors Could Speak we wouldn't need to Advertise

Oilzum

Advertising index will be found on 3rd last page.

Outboard MOTOR BOATING

FIFTY-SEVENTH ST. AT EIGHTH AVE., NEW YORK, N. Y.

Edited by
CHARLES F. CHAPMAN

MARCH, 1930

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SCHANTZ HEADS R C 2

The annual meeting of the Regatta Circuit Riders Club on January 22, in the Grand Central Palace, at the New York Boat Show, brought out approximately a hundred or more members of this well-known organization. Commodore Steve Drakely presided and Ira Hand, permanent secretary and treasurer, read the annual reports. A nominating committee for the selection of officers was then announced by Commodore Drakely, consisting of Wilbur Young, Morris Rosenfeld and Charles F. Chapman. Their selections were: Commodore A. A. Schantz, Detroit; Vice Commodore S. Clyde Kyle, New York City; Rear Commodore A. L. Bobrick, Los Angeles, which officers were unanimously elected.

N. O. A. ELECTION

Two sessions of the National Outboard Association were held in New York during the course of the Motor Boat Show, the first of which was scheduled at the Hotel Roosevelt on January 18. Annual reports were submitted at this meeting by Secretary G. O. Hoehn, and Directors for the coming year were elected as follows: W. E. Willis of New York, A. L. Bobrick, Los Angeles, J. G. Robinson, Cleveland, Gordon C. Gillies, Chicago, W. G. Lamb of Jacksonville, Daniel Pratt, Seattle, and Frank Wigglesworth of Boston. In this board every section of the United States has a representation.

The Board of Directors assembled at the same place on January 20 for the purpose of electing officers. W. E. Willis was unanimously reelected chairman of the board and George O. Hoehn, secretary. Gates Harpel nominated F. Eugene McDonald of Chicago for the presidency and no opposition was presented to his reelection. Mr. McDonald is one of the prominent figures in boating in this country. One of the finest trophies ever competed for was presented by him for a perpetual championship. Judge Rupert H. Turnbull of Monrovia, California, vice commodore of the Southern California Outboard Association was nominated by Director A. T. Griffith for the position of vice-commodore and the election carried without opposition. Judge Turnbull is the father of Loretta Turnbull, who has established a wide spread reputation in outboard racing circles, and he has been interested for many years in the development of outboard races. Gates Harpel of Waukegan, Illinois, was named treasurer and vacancies in the board of trustees were filled at the same session.

KENNEBEC PLEASURE CRAFT

$155
F. O. B.
Waterville

A NEW RUNABOUT TYPE AT MODERATE COST

Take her through the roughest water at top speed. She'll weather it and come out dry.

An advanced V-type boat with both speed and comfort and amazing ease of handling.

Beautifully finished in bright coloring with varnished surface. Strong construction. Will carry a large load easily and handle motor perfectly.

Most complete description of this and other Kennebec models, canoes, etc., in our new 1930 catalog. Write for free copy NOW. No obligation.

Some Other KENNEBEC MODELS

JOY BOY III, popular canvas-covered type, invisible sponsons. $145, f.o.b. Waterville.

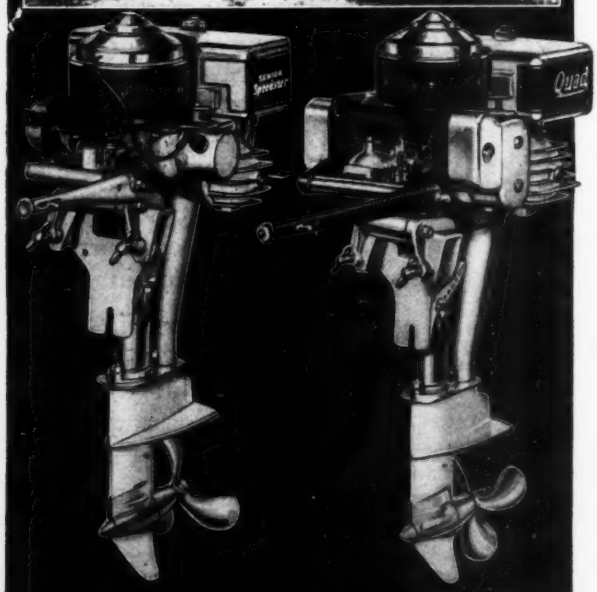
PRIZE BABY, medium priced staunch boat for general use, $158 f. o. b. Waterville.

COMET, a baby runabout of 4-passenger capacity, $289, f. o. b. Waterville.

SKIPPER, a fast, staunch racer with high speed and endurance, $195, f.o.b. Waterville.

THE KENNEBEC CANOE CO.
DEPT. 20 WATERVILLE MAINE

RUGGED · POWERFUL · Electric Starting



The New Senior Speedster

Twin cylinder, 14 H. P. Built with exceptional ruggedness for heavy duty service on runabouts, small outboard cruisers, auxiliaries. New underwater silencer—exceptionally quiet. Offered with 12-volt electric starting and generating system, or with Atwater Kent battery ignition system and fly wheel starting.

The 1930 Quad

Four cylinders, 35 H. P. The outstanding motor for runabouts up to 20 feet, cruisers up to 25 feet. New counterbalanced crankshaft incorporating new type rotary disc valve. Offered with 12-volt electric starting and generating system, or with Atwater Kent battery ignition system and fly wheel starting.

The new Elto catalog, fully describing the *Quad*, the *Senior Speedster*, the *Service Speedster*, the *Lightweight* and the *FOLDLIGHT*, will gladly be sent on request. Write for it.

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We designed them particularly for such service. In reliability, in stamina, in luxurious smoothness and ease of operation, no other motor can compare with them.

The 1930 Quad is strikingly new in every feature of engineering, appearance and performance. It offers dependable, press-the-button electric starting. Its design includes the new Quad *rotary disc valve,* built integrally with crankshaft — a feature second in importance only to electric starting. Developing 35 H. P., it is the most powerful of 4-cylinder outboards. Its new underwater silencer gives quietness *with* full motor efficiency. It is the power plant *de luxe,* for the largest, fastest types of outboard craft.

The New Senior Speedster is blood-brother to the Quad—smaller in power but equally sturdy and reliable. It was "made-to-measure" to fit the requirements of the thousands of medium-sized runabouts and large family boats that are most popular for average service.

Write for catalog.

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Advertising index will be found on 3rd last page.

MARCH Outboard MOTOR BOATING 1930

LOOKING INSIDE THE OUTBOARD ENGINE

What Goes On in the Inner Works of the Remarkable Little Mechanisms Which Develop Great Power Per Pound

By P. A. TANNER, M.E.

Part I

The first of a new series of educational articles intended for the new generation of boatmen now growing up which will explain all of the intricacies of the two and four-stroke-cycle gasoline engine, more particularly as applied to the present type of outboard engine. It is planned to discuss the engines, boats, operation, and care. Among the items which will be included are: The advantages of two-port, three-port and rotary valve types of engines. Methods of motor construction, single, twin, opposed and four cylinder. Ignition, battery, magneto and spark plugs. Carburetion. Lubrication. Steering the boat. Special features of engines, such as electric starters, pumpless cooling, under water exhausts and reversing propellers. Principles of boat propulsion. Operation and care of engines and many other topics of vital interest to the outboard user and operator:—Editor.

COURSING the waterways of the world—its lakes and rivers and oceans—is a small mechanical marvel. Even in this age of phenomenal mechanical development, its rise to popularity has been unusually rapid. Mention an outboard motor within the hearing of almost anyone today, and more than mere recognition of the word is likely to result. Metropolitan newspapers carry paragraphs and columns on the sporting page in season; boating magazines, long devoted to sailing and motor boating, print whole sections and sometimes special issues to this one-time toy; at least one publication is wholly dedicated to readers in the outboard motor field; and the dealers have a trade paper. The world at large, in the span of but a few years, has become outboard motor conscious.

The outboard motor is a small gasoline engine combined with a drive shaft and a propeller, so light in weight as to be readily lifted about and adapted to be clamped to the stern of a small boat. It is a self-contained unit complete with fuel tank, ignition equipment, lubrication and cooling devices, and when attached to the boat is ready at the will of the operator to dash with modern speed to the far side of the lake, or, on command, to propel the craft almost noiselessly at drifting speed through the cool shadows of a summer evening.

A boy born as the Twentieth Century dawned would have been hardly old enough or large enough to operate

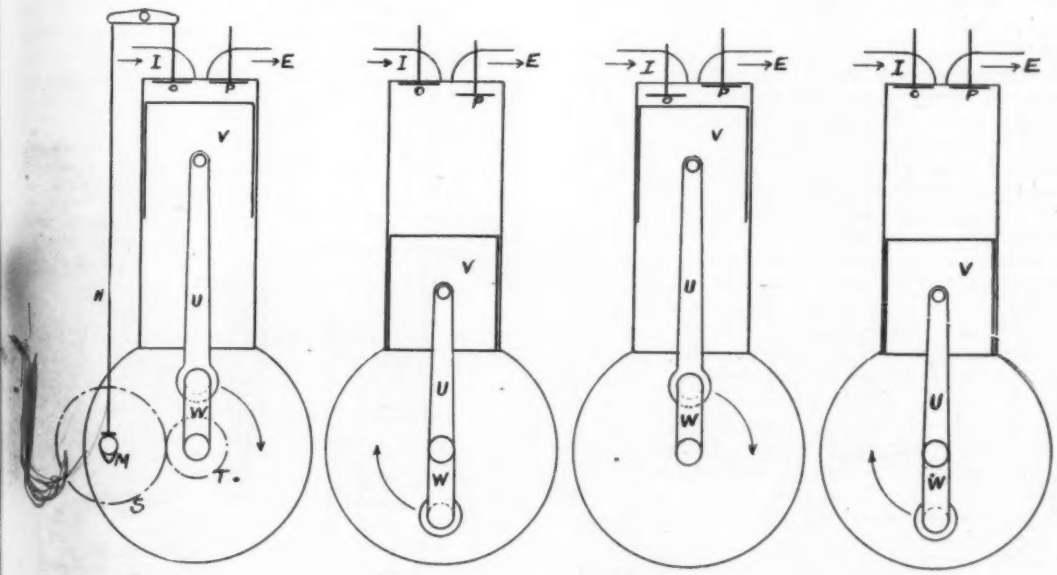


Fig 1 Fig 2 Fig 3 Fig 4

A diagrammatic representation of a four stroke cycle engine showing the relation of valves to piston at the top and bottom of each stroke

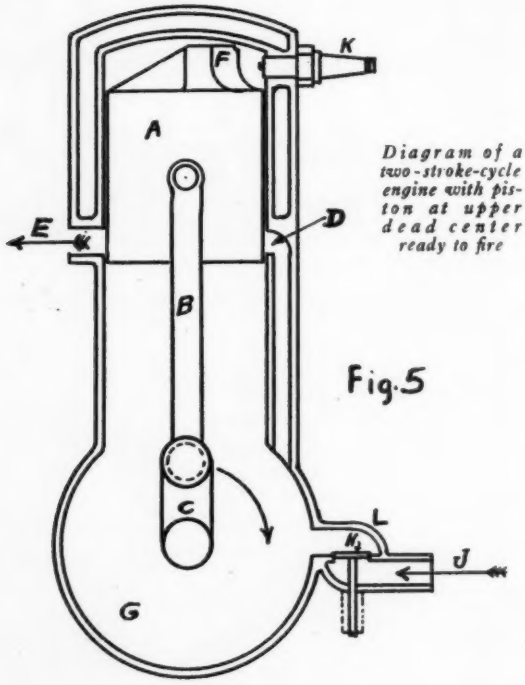


Diagram of a two-stroke-cycle engine with piston at upper dead center ready to fire

Fig. 5

the first successful outboard motors made available to the public. Those were crude affairs compared to the present day highly refined products of several factories. They were heavy and temperamental—a good pair of oars was an almost necessary accessory then—cumbersome and noisy, and quite efficient only in the production of annoying vibration. When they ran they did relieve the burdensome task of rowing but little else may be said in favor of them.

There was little change and only some refinement in details for a period of some ten or twelve years. In fact, the boy born in 1900 would have just reached his majority when the modern era in outboard motoring came into being.

In 1921 and 1922 two new companies were organized to manufacture outboard motors. Their products were much improved over previous machines. Twin opposed cylinders added power and reduced vibration; the use of modern alloy steels in crank shafts, drive shafts and gears added strength and life; while the liberal use of aluminum and its strong but light weight alloys cut the weight in half for double the power.

From 1926 to 1928 and beyond, engineers vied with one another in a rapid-fire development of higher power, greater speed, larger size, and convenience of control and ease of operation. From the light weight motors of two and three horsepower of 1921 and 1922, there came into general and widespread use motors of only three times the weight but developing over ten times the power. The outboard motor speed record as late as 1924 was but a little over 9 miles per hour, set by a motor weighing 35 pounds, developing about 2½ horse power. In 1929 the highest speed record was but little under 50 miles per hour, set by a motor with four cylinders weighing 120 pounds and developing over 30 horse power.

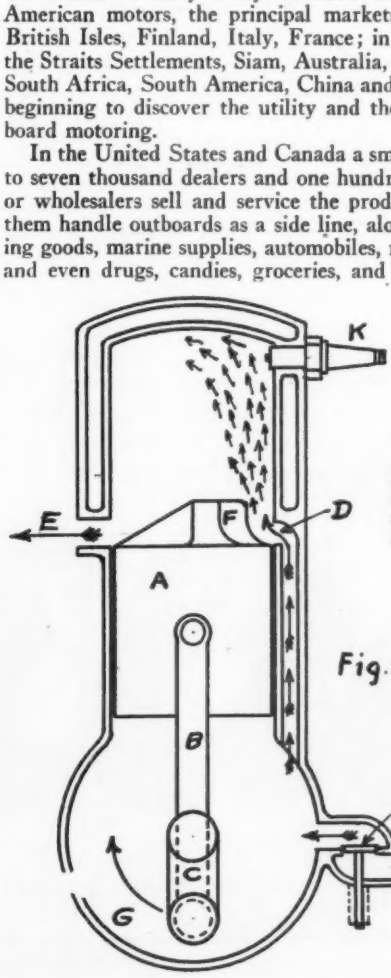
But the development of the motor itself was not alone responsible for its rise in popularity. There was a period of a year or two when boats underwent a parallel advancement. Progress awaited this, particularly in racing. Drivers became more skilled through experience. Spectacular performances impressed the many thrills of this fascinating new sport on the public.

Further than developments within the industry, outside conditions played a large part. Automobiles became so numerous and the highways so crowded that the evening drive or the Sunday afternoon trip became a bore rather than a pleasure. Outdoor sports and recreation came into vogue to a greater extent than ever before. Small inland lakes and quiet clear streams beckoned the weary vacationist and offered greater lure to the followers of Isaak Walton. More and more, the people flocked to the waterways. And they bought outboard motors.

There are no authentic figures on the total production of outboard motors in the United States. While a few years ago there were more manufacturers than now, carefully made estimates indicate that prior to 1923 the annual production seldom exceeded ten thousand units per year, and then but slightly. By 1929 this had grown to approximately sixty thousand units having a retail value of more than twelve and a half million dollars. It is impossible to estimate the additional millions invested in boats, accessories, fuel and oil, and other items related to this industry.

America leads the world in this as in other activities. Of the total production of outboard motors in 1929, roughly fourteen thousand were exported from the United States, and of these, some nine thousand motors went overseas. There are by far more factories building outboard motors in Europe than here, but America produces a very large majority of the motors built in the world. Nearly every civilized country imports American motors, the principal markets being in the British Isles, Finland, Italy, France; in the Far East, the Straits Settlements, Siam, Australia, New Zealand. South Africa, South America, China and Japan too are beginning to discover the utility and the sport of outboard motoring.

In the United States and Canada a small army of six to seven thousand dealers and one hundred distributors or wholesalers sell and service the product. Most of them handle outboards as a side line, along with sporting goods, marine supplies, automobiles, radio receivers, and even drugs, candies, groceries, and life insurance.



The same engine as above with piston at lower center receiving a new charge through port D

Fig. 6

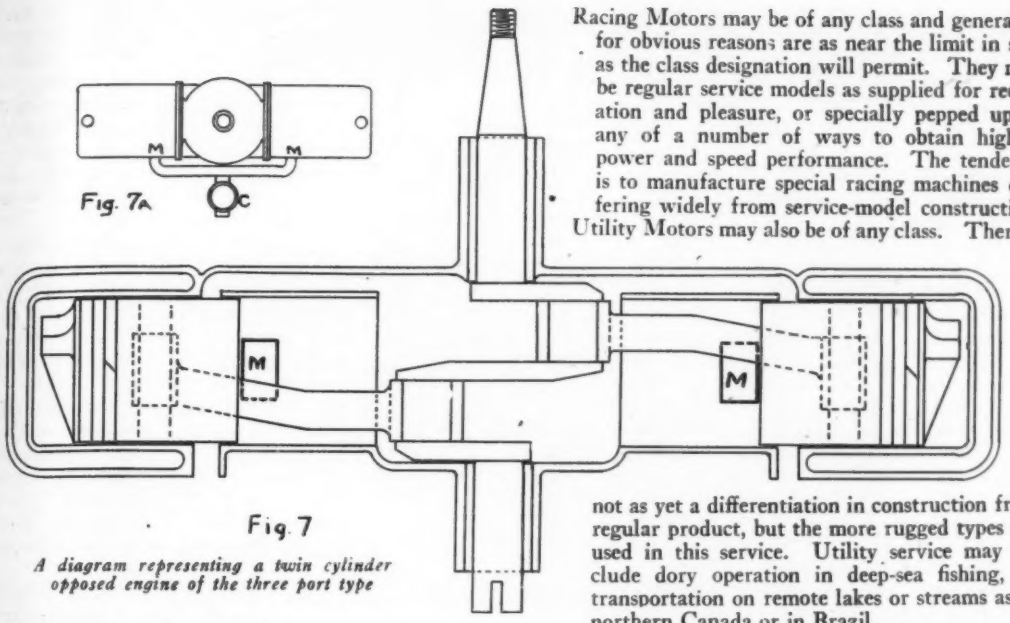


Fig. 7A

Fig. 7

A diagram representing a twin cylinder opposed engine of the three port type

Nearly every line of human endeavor is represented in the dealer lists. Outdoor enthusiasts, no matter what their business or profession, have become intensively interested.

Another great force is helping to build the industry. In 1928 the National Outboard Association was formed. Financially supported by the manufacturers of motors and boats, but controlled by a Board of Directors elected by the members, this young but rapidly growing organization has directed concerted effort to the improvement of boating conditions, the prosecution of noise nuisances, and has assisted in the codification of racing rules and the governing of official American Records in racing. Members at large are accepted, but the real unit of the Association is the local Club of which there are already a great number. These, however, are grouped into sectional associations and thus are able to work for local, sectional, and national good.

Primarily for the purposes of racing, outboard motors have been divided into classes according to piston displacement. Piston Displacement (P) is the volume, in cubic inches, swept by all pistons of the motor on one stroke. It is computed as follows: The Diameter of the bore of the cylinder (D) squared; divided by 4; multiplied by Pi which is 3.1416; multiplied by the stroke (S); multiplied by the number of cylinders (N). Thus:

$$\frac{D^2}{4} \times 3.1416 \times S \times N = P$$

If a twin cylinder motor has a bore of 2 inches and a stroke of 2 inches, the piston displacement is 12.5664 cubic inches.

The racing classifications are as follows:

Class A—Under 14 cubic inches
B—Over 14, under 20 cubic inches
C—Over 20, under 30 cubic inches
D—Over 30, under 40 cubic inches
E—Over 40, under 50 cubic inches
F—Over 50, under 60 cubic inches
G—Over 60, under 80 cubic inches
H—80 cubic inches or more

Outboard motors may also be roughly grouped, not so much according to construction as to general usage:

Racing Motors may be of any class and generally, for obvious reasons are as near the limit in size as the class designation will permit. They may be regular service models as supplied for recreation and pleasure, or specially pepped up in any of a number of ways to obtain highest power and speed performance. The tendency is to manufacture special racing machines differing widely from service-model construction.

Utility Motors may also be of any class. There is not as yet a differentiation in construction from regular product, but the more rugged types are used in this service. Utility service may include dory operation in deep-sea fishing, or transportation on remote lakes or streams as in northern Canada or in Brazil.

Recreation Motors are the so-called service models for family use at the summer cottage, for hunting and fishing trips, tours, and general all round pleasure. Such motors are refined in the direction of ease of control, dependability, long life, rather than maximum power and speed.

THE FOUR-STROKE-CYCLE ENGINE

From the engineering standpoint, outboard motors differ widely from any other type of internal combustion engine. Light weight for portability is a first essential. The outboard must be small and compact relative to its power output. Reasonable wearing qualities and dependability must be provided in spite of these requirements. Engineering achievements have been no less than phenomenal under these conditions.

Nearly everyone is familiar with the four-cycle engines universally used in automobiles, trucks, airplanes, tractors, and for industrial machinery. But in order to make outboard motor design and construction more clear by comparison and contrast a brief description of the four-cycle principle follows.

The true name for this principle of internal combustion engine operation is Four-Stroke-Cycle, meaning that the piston in any one cylinder performs a different function on each of four consecutive strokes, two up and two down, and then repeats through four more strokes, each series of four strokes representing one cycle of operation.

Figures 1, 2, 3 and 4 represent diagramatically a vertical single cylinder engine with its two valves *O* and *P* in the head and the connecting rod *U* connecting the piston *V* to the crank shaft *W*. In figure 1 the piston is up as far as it will go toward the head—upper dead center. Both valves are closed. The space between the piston and the head of the cylinder—Clearance Volume—is filled with a mixture of gas and air compressed. The spark is occuring in the spark plug, igniting this compressed mixture, burning it, and creating pressure on the piston, forcing it downward, thus turning the crank shaft to the right. This is known as the Power Stroke.

In Figure 2 the piston has completed the Power Stroke and is on lower dead center. The Exhaust Valve *P* has now been opened by its push-rod and cam to permit the burned gases—exhaust gases—to escape.

The piston is just beginning the Exhaust Stroke. As it moves upward, forced to do so by the revolution of the crank shaft, it forces the remaining exhaust gases out through the Exhaust Valve which is held open during all of the stroke.

In Figure 3 the piston is again at the upper dead center. It has completed the Exhaust Stroke and is just beginning the Intake Stroke. The Exhaust Valve is now closed and the Intake Valve *O* has been opened by its push-rod and cam. As the piston moves downward on the Intake Stroke it sucks a new charge of mixed gas and air from the carbureter through the Intake Valve, filling the cylinder.

In Figure 4 the piston is again at the lower dead center. Both valves are now closed. As the piston moves upward on this fourth stroke—the Compression Stroke—it compresses the new charge into the Clearance Volume or Combustion Space between the piston and the head of the cylinder.

The piston has then again reached the position shown in Figure 1 and the four operations of the four strokes begin over again.

It will thus be seen that the crank shaft has completed two full revolutions—four strokes of the piston—for each explosion that occurs in the cylinder. The cams *M* which operate the push-rods *N* which open the valves *O* and *P*, and permit their closing at the proper times are carried on the Cam Shaft which is driven from the crank shaft by gears *S*, *T*, at one-half the speed of the crank shaft. During one cycle of four strokes, or two revolutions, the cam shaft makes one full revolution. There is one cam and one push-rod for each valve (except in special constructions of multi-cylinder engines). While valves may be located in the head of the cylinder as shown, in many engines these are located to the side, and sometimes in a horizontal position.

In a four cylinder vertical automobile engine there are four explosions or power impulses every two revolutions of the crank shaft—two impulses every revolution. In a six, there are three impulses per revolution; in an eight, four impulses per revolution. This indicates why the four, twin, or single cylinder engines are less smooth and less flexible in operation than the sixes and eights.

Since power is produced during only one out of four of the strokes of the cycle, it is apparent that during one stroke the piston is turning the crank shaft, but during the other three strokes, the crank shaft is pushing the piston. This is the reason that a flywheel or an equivalent is always required—to store up energy of motion during the one Power Stroke and to give out energy to the piston during the other three strokes. Since with more cylinders the power impulses are spaced closer together, the engines with the most cylinders require the smallest flywheels, since the power stroke of any one cylinder assists all others on the other strokes.

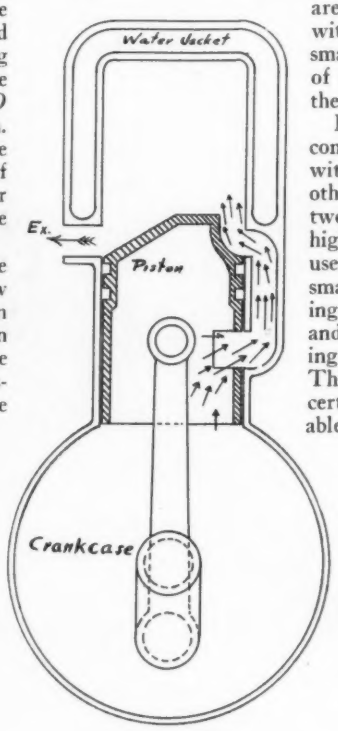


Fig 8

A variation known as the four port type in which a port in the piston and cylinder wall matches

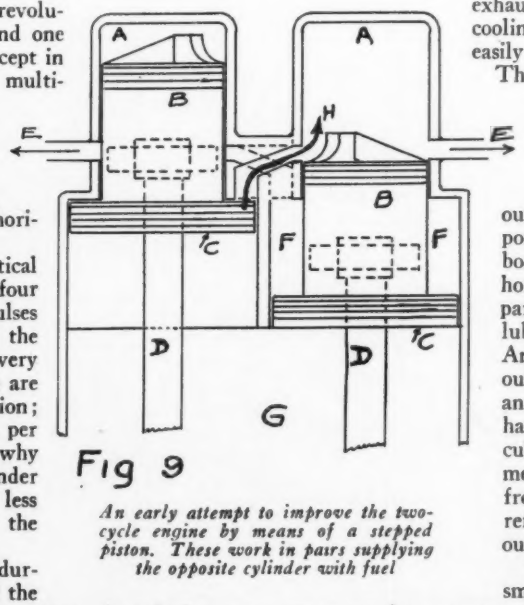


Fig 9

An early attempt to improve the two-cycle engine by means of a stepped piston. These work in pairs supplying the opposite cylinder with fuel

In spite of the greater mechanical complication of the four cycle engine with its gears, cam shafts, valves, and other parts which are not required in the two-cycle type, it has become the more highly refined and is almost universally used except in the outboard motor, for small portable lighting plants and pumping plants, to drive washing machines, and in certain very large heavy-oil burning power-plant and marine engines. This is because the four-cycle type has certain inherent advantages not procurable in the other without undue complication of construction.

The four-cycle engine is flexible. A simple throttle which restricts the flow of the mixture of gas and air to the cylinder on the Intake Stroke controls its power and speed effectively. It will operate steadily and economically so throttled and respond instantly when more power is required. It is economical because none of the fuel is mixed with the burned exhaust gases—except the small amount of exhaust residual in the combustion space at the end of the Exhaust Stroke. Its lubrication oil is used over and over in the bearings and the crank case, the actual consumption being very slight indeed. Silencing the exhaust is not difficult. Adequate cooling of the cylinders is rather easily provided for.

The four-cycle engine has not heretofore been widely used in the outboard motor industry for several reasons. As has been stated, light weight in an outboard motor is of prime importance. The four-cycle outboard motor weighs more per horse power output. Its extra parts, valves, cams, gears and lubrication system add weight. And no four-cycle engine, without the great cost, complication, and weight of a supercharger has developed the power per cubic inch of piston displacement that is now being obtained from the latest and most highly refined racing type two-cycle outboard motors.

The four-cycle motor in the small sizes required in outboard motor service are more costly to build. The greater fuel and oil expense in the operation of the two-cycle is almost negligible since the (*Continued on page* 226)

Jack Kerr, Malcolm Pope, and Harrison Fraser making some delicate fuel mixture with apothecary measures

OUTBOARD FUEL SHOULD BE OIL RIGHT

Some Comments Gleaned from Earl Gresh, Malcolm Pope, Harrison Fraser and Jack Kerr On the Correct Fuel and Oil Combination for Outboards

By KENNETH RECKER

FIRST, let's talk about the fuel question. If an outboard racing motor, using a certain combination of fuel, runs indefinitely without giving trouble of any kind, we can feel certain of two things: —first, that it is a well designed motor, and second, that it is obtaining perfect lubrication, otherwise trouble would occur. When something does go bad in the motor we are confronted with several possible ties:

1st—The lubrication system of the power head and lower unit may be poorly designed.

2nd—The oil may be poorly refined.

3rd—The oil may not be supplied in the right places in the right amount.

4th—The oil may be of good quality but not suited to outboard racing motors.

5th—Foreign material, such as water, grit, filings, etc., may enter fuel oil, being carried, mixed or put in motor.

Nowadays there is very little trouble due to poorly designed motors. It has been found entirely useless to connect up additional oil pumps and drip lubricators, especially since the day of the plain bronze bushing is past.

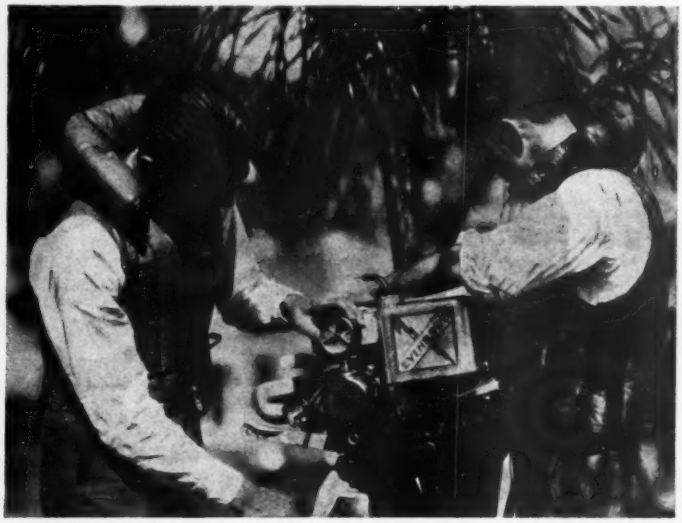
Trouble due to poor oil is more frequent perhaps. Especially should you beware of unknown brands, as this trouble is very exceptional among well known makes of oil. Sometimes, however, a small filling station will sell you a gallon and call it Quaker State or Mobile when it is actually a cheaper substitute oil. Gulf, Duplex, and some others have the right idea with their oil, as they are selling it in special non-returnable steel drums with the bungs sealed, and the lithographed cans are also equipped with a seal that has to be torn off before it can be opened. Another good thing about some 5-gallon cans is that they have outside soldered seams to prevent possibility of any solder flux on the inside of the can contaminating the oil.

The third fault as listed above is that the oil may not be supplied to the right place in the right amount. If you watch your mixture for your power head carefully this is nearly automatically taken care of, and in the lower unit it is a question of getting your bronze bushings fitting snug enough to hold the oil. Much lower unit trouble is caused because the lower unit is put up too sloppy and the oil will not stay in. This naturally causes poor lubrication on account of the water trying to do the work of oil, and the propeller shaft gets hot and crystallizes at the gear and breaks.

The fourth trouble we might start explaining by giving the essential requirements of a good outboard motor cylinder oil. First, it must lubricate the piston

efficiently at the high temperature encountered in the cylinders. Second, it must give a good seal to the pistons and rings keeping them tight and prevent leakage of oil, condensed gasoline and compression past them. Third, it must burn without forming too large a carbon deposit when an excess of oil gets in the combustion space. The first requirement is a general one, and if you look closely into the action of the film of oil on the cylinder walls you will see it is subjected to very different conditions at different depths. The lubricating value of the oil is due to the fact that when the surfaces of the piston and cylinder are separated by a film of oil the friction that remains is only that occasioned by the sliding of the molecules of oil past each other. In other words, it is the same as if two layers of oil are sliding past each other and the friction that occurs takes place inside the oil film and not on the surface between the film and the metal. The outboard driver knows that oils are called light, medium and heavy, etc., but that they seem to vary according to brands. There is, however, one set way of keeping track of them and that is a measurement called viscosity, and in oils the higher the viscosity the less fluid the oil is and of course the greater the corresponding liquid friction. Now, in the outboard motor the temperature is so high that the viscosity of an oil decreases greatly and while there may be a large difference in the original measurements of the oil, after the temperature is applied they come closer together. The outboard racers as a rule find a heavy oil is very good, simply because its molecules are larger, and even when their viscosity decreases under working temperatures it still is efficient. The deciding factor in choosing your own oil should be the conditions of the pistons and rings. When the rings and pistons are new, a lighter oil will give good results, or if high tension rings are used, however, it has generally been found that a heavy oil is necessary in either a run-in motor or a motor purposely set up with the rings and pistons loose and with much clearance. The difference between four cycle and two cycle motors is that in the two cycle motor the oil film is exposed to the temperature of the explosion every revolution instead of every other revolution, as in the four cycle type, and with the new high compression and terrifically fast piston speeds it becomes necessary for the outboard driver to secure the best possible oil. In the lower unit of the motor a condition exists where it is best to use the lightest oil that it is possible to keep in the lower unit, and it is essential of course to use the best oil obtainable. Many drivers blame the atmosphere, bent propellers, etc., for the change in revolutions from one day to another, yet many times the 150 revolutions they have lost over night was due to the oil having run out of their lower unit and water trying to take its place.

The fifth trouble, that of foreign material in the fuel mixture, such as water and grit, can only be avoided when the greatest of care is taken in handling your fuel. In the first place, if it is possible, buy your oil only in 5-gallon sealed cans, then with a clean quart measure put your oil into your 5-gallon gas can, after having thoroughly cleaned out the gas can. Then strain your gasoline through a funnel with a chamois or a fine copper wire screen, and each time before using shake harder than you would a cough medicine bottle. Another funnel with a strainer should be used when putting the fuel into the motor, unless you have what most thorough going race drivers have, an oil can with a flexible spout. With this type of can it is only necessary to see that the top of it and the flexible spout are kept clean.



Earl Gresh and Malcolm Pope use a compression gauge in watching motor performance

If you desire to keep an accurate record and test on the compression of your motor, one of the compression gauges put out by E. Edlemann & Company, of Chicago, will prove most handy, and it is the surest way of maintaining an even sealing of compression in your motor. Then by trying different fuel mixtures in your motor and testing the compression after each run, you can find just what gives the best results.

When it comes to the actual proportions of the fuel, we find a wide difference of opinion exists, but among the best of our Florida drivers we find the following rule generally holds. If you want to race a large propeller at a lower number of revolutions, say on the average motor, 4800 to 5300, you should pick a low test gasoline; but on the other hand, if you want to let your motor rev up to 5600 to 6000 revolutions per minute, you should use a higher test gasoline with some benzine added, 40 per cent benzine and 60 per cent gasoline is about the right amount. If you want to try some real rutabagas try a couple of ounces of picric acid, and half a pint of sulphuric motor ether to a gallon of benzine high test gas mixture, and you will have a very powerful fuel. Some combinations have been tried using castor oil, wood alcohol, together with a slight amount of iodine, as this is the only way castor oil can be used, but some of the good marine oils are said to almost duplicate the best attributes of castor oil without the disadvantages. In mixing up racing fuels do not make the ridiculous mistakes some have made, such as using anaesthetic ether instead of sulphuric motor ether. However, the best thing to do as to fuel mixtures is watch what the leading racers are using and profit by their example, as their knowledge and experience gives them an advantage over the average amateur.

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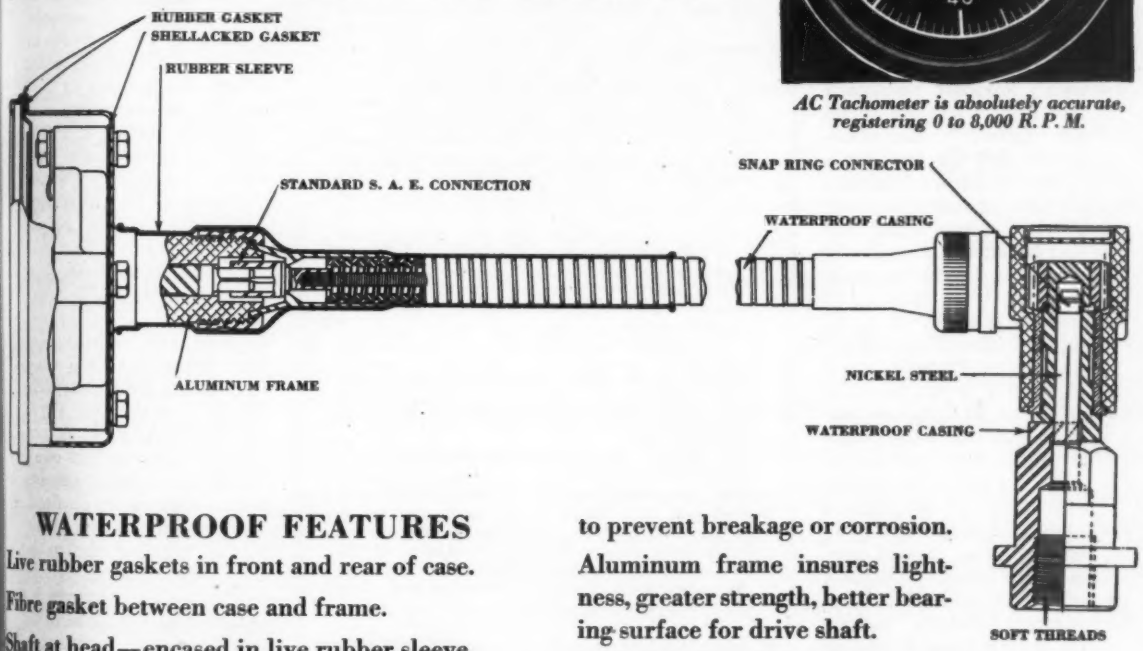

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OUTBOARD DRIVERS ORGANIZE

By LEW HEWES

Secy.-Treas. National Outboard Drivers Association

THE National Outboard Race Drivers Association came into existence as the logical answer to an important need. For several years the drivers of importance have recognized its prospective scope of usefulness, but not until 1929 was any concerted action taken to bring about its formation. It would be hard to pick any exact date upon which the idea took form, yet it is very evident that after the National Championship Races at Peoria last year, things began to happen. All during the summer and fall racing season, some thirty or forty nationally known drivers at odd times discussed ways and means of getting together in an Association to be composed of drivers only, and perhaps the contact with the country's foremost outboard race drivers was the deciding factor. Everybody agreed that the need for a drivers' group was pressing. Certain events at the Peoria races crystalized that belief, for immediately thereafter letters began to pour in from drivers all over the good old U. S. A. urging immediate formation of a drivers' group. Having a wide acquaintance among the drivers, due to the fact that I have made it my business to be on hand at most of the prominent races of the country with a fervent desire to win wherever it could honestly be done, I suppose that I was selected as Temporary Secretary because the drivers knew I was vitally interested and would work hard to make it a success.

MUCH has been heard lately of the formation of Outboard Driver's Associations everywhere. They have been formed in the east, mid-west and in Florida. Much of the publicity about the Driver's Associations stated that they were formed to revolt against the 1930 racing rules which were not particularly well received by the professional drivers, as the rules separated the amateur from the professionals. The amateurs, too, objected because they could not race for cash prizes according to the rules.

The National Outboard Racing Commission announced that it was willing to meet with any drivers organizations that might be formed, explain the reasons for the present rules and hear and act upon any legitimate complaints which the drivers might have. Several meetings were held and after the drivers had heard the viewpoints of the Racing Commission and given their own, they were, as a rule, pretty well satisfied that the present rules pleased the greatest majority of drivers. Of course, in a number of instances certain minor changes in the rules were suggested but as no two groups of drivers (and in some cases not even the members of the drivers committees) could agree on what the changes should be, quite naturally no action could be taken.

The Racing Commission believes in a Driver's Association, provided it is properly organized and managed. MoToR BoatinG *feels the same way. We believe such an organization would be of great benefit and service to the sport of outboard racing.*

Of all the Driver's Associations which have attempted to organize, the one sponsored by Lew Hewes of Waukegan, Illinois, is by far the most developed and seems to be well worthy of National recognition. Mr. Hewes, who has recently been elected Secretary-Treasurer of the National Outboard Race Drivers Association, in this article tells of some of the aims and plans of his organization.—Editor.

I wish you readers could see some of those letters I began to receive last October. Anyone who doubts that the outboard race drivers of this country take their racing seriously, could be easily convinced of their wrong impression. How in the world the news spread around that I was trying to do something about a drivers' association I will probably never know. But the news DID spread. And the more letters I answered the more poured in. The mail carrier on my route began to inquire in a mildly complaining way, and still the letters came. Some of the proposals were very amusing, and some contained excellent ideas. They all said one thing plainly, "Do something," and do it quick.

It was very evident that we were getting nowhere with this barrage of letters, so late in October a double post-card was mailed to all whose names and addresses we had. On one side of the card was an invitation to join with and assist in the formation of the National Outboard Race Drivers Association, the name most often suggested. On the other side was a place for the prospect's signature with the explanatory remarks that signing the card indicated that the prospect was interested, and that he would have an opportunity to vote later on the selection of officers and directors, constitution and by-laws, and the amount of initiation fee and yearly dues. There was a place left for names of other drivers to be solicited.

This peculiar form of organization was adopted because of the necessity of proving conclusively to the driver that he was to have a voice in everything. It is a well known fact that associations of various types existed in the past whose sole mission in life seemed to be the painless extraction of money from the driver, without giving him a voice in anything. Hence the caution.

With the assistance of the various outboard clubs throughout the country, the N. O. A., the M. V. P. B. A., the A. P. B. A. and others, the entry lists of all sanctioned and unsanctioned races were obtained. In this connection it is only fair to say that the co-operation received in getting this huge list of names together from all parts of the country, was super-excellent. When the various bodies found out what we were trying to do, they certainly did help in securing this and other much needed information.

By now our list of prospective members had grown and grown, until several thousand names and addresses appeared. Letters and cards were sent out at regular intervals, and there was always a goodly return. With the announcement of the new 1930 Racing Rules, came the biggest flood of letters I have ever seen. The drivers poured out their hearts and HOW. At that very moment I thanked the good Lord I had not made any move that would lay me open to criticism, for the biting sarcasm an outboard race driver can deliver when battling for his pet sport was a revelation. If I had been cautious up to that time, I was doubly so now. And then the big idea filtered in. Why not make up a big (*Continued on page* 206)

LUDINGTON WINS AGAIN!

THE NEW LUDINGTON SPORTSHIP—a trim 17 foot six passenger runabout, inboard powered with outboard drive $995

THE NEW LUDINGTON ALL MAHOGANY SPORTSHIP SENIOR—sister ship to the Sportship with refinements and construction that duplicate the class luxury of the most expensive runabouts; $1375

THE NEW LUDINGTON LIGHTNING—11½ feet of speed and power for racing in A Class, Division 1, 2 and B and C Class Division 3 . . . . . $240

THE NEW LUDINGTON ROCKET—a 13½ foot racing job built to cross the finish line first in B&C Class, Division 1, 2 and D Class Division 3 . . . . . $260

THE NEW LUDINGTON FLASH— Big Brother to Model "A" Lightning—14 feet of winning ability for C and E Class, Division 1, 2, or 3 . . . . $310

ALL PRICES F.O.B. PHILADELPHIA

5 NEW LUDINGTON MODELS.....

ACCORDED ENTHUSIASTIC RECEPTION AT THE MOTOR BOAT SHOW

Those who visited our booths at the recent Motor Boat Show were quick to note the new improvements and features in Ludington's new line of runabouts and racing craft for 1930. The graceful beauty of the Sportship and Sportship Senior, their sturdy construction, the type of inboard Gray Motor selected, the forward position of dry, comfortable cockpits, the accessibility of the outboard drive unit—were carefully inspected and approved by all. Ease of control, maneuverability, and seaworthiness will be conceded by hundreds of owners as they skim the waters of lake, river, and sound in their Sportships this summer.

As for the racing craft—only Ludington could have produced the improvements which the new designs incorporate. The three models shown to the left were carefully inspected by championship drivers at the show and approved for scientific design, sturdiness, and all-round winning ability. Special side construction allows hairpin curves to be taken at full speed, a feature unknown before in racing craft. New championships will be established by these new craft in 1930!

DEALERS whose interest in sales and systematic profit making is in proportion to ours, are needed to handle Ludington's 1930 craft of the waterways. Write today on your own letterhead for complete information.

RUNABOUT OR RACING CRAFT

« « « DRIVE A LUDINGTON » » »

Ludington Boats are on permanent display at the new showroom in the Atlantic Building, Philadelphia, as well as at Port Elco in New York and other convenient locations. Booklet can be had by addressing

LUDINGTON

LUDINGTON AIRCRAFT, INC. « » BOAT DIVISION
OR Atlantic Building, Philadelphia

OUTBOARD DRIVERS ORGANIZE

(*Continued from page* 204)

questionnaire for the drivers and let them put their wishes down in black and white? It would be entirely fair and impartial. It would reflect the sentiment of the outboard race drivers as a whole. It would for the first time in the history of the sport give every driver a chance to speak his piece and register his opinions. They could express their preferences, vote for their officers and directors, and perfect the organization all in one stroke. The selection of questions to be asked had been made easy by the ideas most often expressed in the letters received. And so it was done.

In all, twenty-three hundred and fifty questionnaires were printed and mailed out. Every prospect whose name and address we had been able to beg, borrow or steal was mailed one or more. Blocks of from 25 to 300 questionnaires were also sent to different centers where it was hoped they would find their way in drivers' hands. The list contained 46 questions, most of them required answers on bitterly disputed points. They went into the mail about the twentieth of December, just in time to spoil the otherwise peaceful atmosphere of many an outboarder's home. Christmas shopping or no, these determined drivers somehow found time to write out their answers. It was indeed a miracle how some of them were ever returned to me without being enclosed in asbestos envelopes. But the radicals were greatly in the minority. It was apparent that the biggest kick the drivers offered was because they had no representation on the National Racing Commissions' Committee on Rules; they felt that they should be allowed to race for cash prizes in Div. II, and that the boat weights as specified were premature. The outlaw provisions, so-called, of Div. III were received with ill grace, and there was a growing tendency to classify drivers as either amateurs or professionals instead of Div. I, Div. II or Div. III. The no-restrictions clause in Div. III was interpreted by most of the drivers as meaning that anything would be allowed. Visions of multi-cylindered monstrosities to race against produced a veritable nightmare to drivers in some sections, who found themselves in Div. III. Careful scrutiny of the rules, however, would have revealed to them that the motors were still governed by classes, which in itself limited the cubic inch piston displacement in each and every class. This one phaee of the rules, however intended, was very confusing in its wording, and caused a great deal of hullabaloo that might very easily have been avoided by more explicit wording.

By now the drivers realized that in the past they had been sound asleep at the switch. They were placed in the somewhat ridiculous position of severely criticising the powers that be, without having done one single thing in the past as an organized group. If the National Racing Commission had wanted to get the opinion of the drivers on the new racing rules, it became evident that they would have to do exactly the same thing as we did, send out a questionnaire. They could hardly be expected to go this far. If the drivers did not see the absolute necessity of being organized, surely no one could charge this against the National Racing Commission. Full realization of this one big fact came gradually, and with realization came calm reasoning.

This very same calm reasoning was reflected in the answers to the questionnaires. They were expressive of a hope that our plea for recognition as an important cog in the sport would be answered. They did not DEMAND anything. And right here, in this fair attitude, to my way of thinking, lies the success of our whole venture. If the drivers of this country had risen in their might and demanded certain rights and privileges, if their attitude was one of antagonism and resentment, if they had threatened or even intimated that they would quit in a huff it is my sincere belief that the sport of outboard racing would be in an awful condition today. It is quite true that the drivers are not entirely satisfied with every phase of the 1930 Racing Rules, but this does not signify that an irreparable break has occurred. Rather it has served to make the drivers conscious of their position and more fully aware of their own responsibilities. The tabulated answers to the questionnaires, 1,545 of which were filled out and returned, disclosed a very fair attitude on the part of the drivers. They said in so many words, "To the members of the National Racing Commission and other interested parties, we hand you herewith the hopes and wishes of the majority of the race drivers. We sincerely hope that in your future deliberations you will find it expedient to consider our desires, and that you may find a way to modify the 1930 Racing Rules to make them more acceptable to the majority. We ask that we be given representation in the national bodies who formulate the rules, for we are now representative, and honestly feel we are are entitled to representation. If you show a tendency to co-operate with us, we in turn will do all we can to co-operate with you. We want to be friends, do you?"

The tabulated results were prepared and presented before the informal meeting of the National Racing Commission during show week at New York late in January. All interested parties were informed of the results of the questionnaires returned. The result was exactly what could be expected from a group of sportsmen. They met us half way, and said in effect, "Welcome. Where have you been? It's about time you showed up and took your place and assumed your responsibilities. Let's go to work." And so the National Outboard Race Drivers Association first justified its existence as a factor in the sport.

February first had been set as a tentative date to close the polls for election of officers and directors, and once again the questionnaires were consulted. Carl Koeffler of Wauwatosa, Wisc., 1929 National Champion in Class C, was declared elected Commodore. The ever popular Ben Coler of Gary, Ind., is Vice-Commodore. The returns indicated that the drivers wished the offices of Secretary and Treasurer to be in one, and I was let in for a lot of further hard work by being selected. My first official act was to immediately get a bond indemnifying the N. O. R. D. A. against financial loss as long as I was Treasurer for I consider it only fair and just to the membership. Our Directors were chosen from the five sections of the country, North, South, East, West and Mid-West. They are North—H. L. Davies of Milwaukee, Wisc., Dr. David Downing of Detroit, Mich., and Norbert Diederich of Madison, Wisc. South—Harrison Frazier of Auburndale, Fla., Malcolm Pope of Winterhaven, Fla., and Gene Pickard of Wilmington, N. C. East—Al Buffinton of Fall River, Mass., Wm. C. Schanz of Caldwell, N. J., and Walter Widegrin of Glen Cove, N. Y. West—Loretta Turnbull of Monrovia, Cal., Grover Speegle of Watsonville, Cal. and Jas. J. Tregoning of Seattle, Wash. Mid-West—Dick Upsall of Chicago, John Maypole of River Forest, Ill. and Chas. P. Hanley of Muscatine, Iowa.

Carl Koeffler is without question a born leader. He is a clever real estate operator, and an excellent business man. His term as Commodore will be marked down as a business administration, no doubt. Carl is known from coast to coast as a driver of unusual ability and unquestioned sportsmanship. Everybody likes Carl, and respects him.

Ben Coler needs no introduction to the race drivers. Racing is only a hobby with him, for his main business is proprietor of one of the biggest and most successful cleaning and dyeing establishments in Indiana. Ben is a hard driver, and his record of wins is very imposing.

The Board is composed of men who know the drivers' problems, for they are not only successful business men, but dyed-in-the-wool racing fans. They will undoubtedly be able to do a vast amount of good for the sport. Your Secretary and Treasurer while also a racing hound, has as his main business the sale of Packard automobiles and is a dealer in outboard motors and boats.

When the National Outboard Race Drivers Association first started, its objects were, "to secure representation for the drivers in the national bodies who make the racing rules, to elevate the sport, and the undesirable features." The members are still of the same mind. There are a great many things the N. O. R. D. A. can accomplish for the driver as well as the sport. And we hope to justify our existence.

It was the sentiment of the drivers that N. O. R. D. A. members should be left free to affiliate where they saw fit with local clubs. No group of a National character can possibly take the place of a local club with its local contact. Our initiation fee of $3.00 and our annual dues of $5.00 were purposely made small, so that members could affiliate with local clubs without financial hardship.

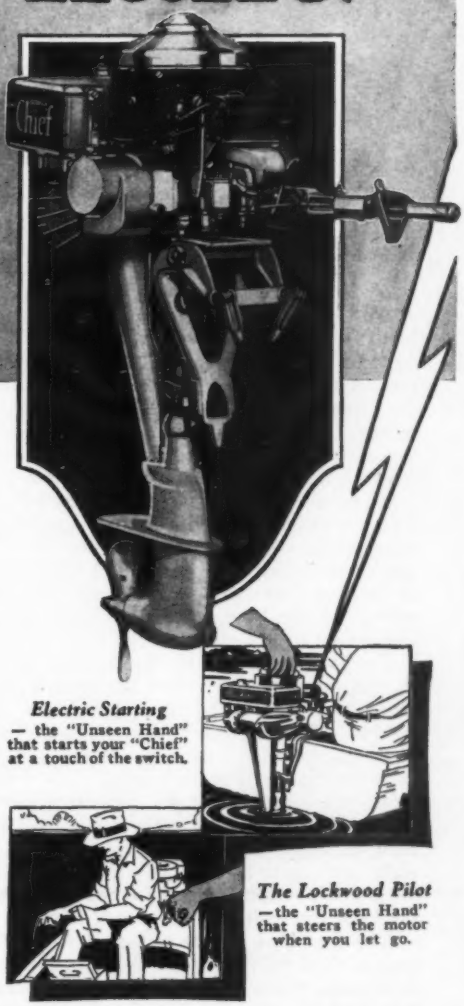
So here we are, hard at work, and happy in the thought that at last our drivers are organized. We hope that every driver in the country will write in for a membership application, and work hand in hand with us. We all hope that our future relations with other outboard bodies will gain us the respect and confidence we shall so earnestly try and deserve. Being entirely human, mistakes will probably be made at some time or other, but a sincere membership will soon ferret them out and correct them as all true sportsmen should.

The "Unseen Hand" now *starts* and *steers* your LOCKWOOD Chief

NOW — *ELECTRIC STARTING* for your Chief! A *new* comfort — an *added* pleasure making your boating hours more happy, more memorable.

Now — touch the switch and let Electric Starting whirl you off to the open spaces — then settle back, as Chief owners always have, and let the Lockwood-famous "Unseen Hand" take the helm while you rig a rod or light your pipe.

What a motor this 1930 Chief is! You'll thrill at its POWER as it drives your runabout or family boat at top speed. You'll wonder at its QUIETNESS — its perfected Underwater Silencer that actually *adds* power. And at this season's end — and for many seasons to come — you'll take off your hat to the Chief's ENDURANCE — its inbuilt Stamina that has given you hundreds of hours of worry-free boating.



Electric Starting — the "Unseen Hand" that starts your "Chief" at a touch of the switch.

The Lockwood Pilot —the "Unseen Hand" that steers the motor when you let go.

—*now* all this *plus* ELECTRIC STARTING! That's the 1930 Chief!

The Ace More than ever, all that its name implies — undisputed leader in the field of Class A motors. And now — it is an even greater Ace, for Underwater Silencing and Back-Pressure Elimination are standard Ace features. Here's more *running comfort* — motor-noise hushed to a pleasant drone, motor fumes discharged deep a-stern. And *starting ease* because back-pressure in starting is automatically eliminated by the ingenious Lockwood cut-out. You'll like the new Ace with all its former refinements—Lockwood Pilot, flashy speed, medium weight (55 pounds), surging power—plus Underwater Silencing and Easy Starting through Back-Pressure Elimination.

Have your Lockwood Dealer show you the World's Lightest Twin—FOLD-LIGHT, *product of Outboard Motors Corporation.*

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Send me the 1930 LOCKWOOD Catalog and full details on FOLD-LIGHT, world's lightest twin.

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Address.....

A NEW COLLEGIATE COMPETITION

Great Interest in Outboard Racing Leads to the Promotion of an Inter-Collegiate Regatta for Outboards

By G. R. ROWE

FOR many years the only form of inter-collegiate competition has been in the field of athletics, but through the immense expansion of interest in outboard boating there is another field that holds great possibilities for more activity between colleges.

Up to the present there has been no organized work in the field of outboarding within or between the colleges of the country, but with the approach of spring there are several dual meets scheduled tentatively, now, but almost positive of success. Peculiarly enough, however, these contests are planned by mid-western and far-western universities through the co-operation of many of the local outboard associations in those regions.

From all corners of the outboarding world these attempts are meeting with great favor, beneficial to the colleges, the industry and to the respective institutions. But these are all dual meets, and to the Outing Club of Colgate University goes the honor of organizing and sponsoring the First Intercollegiate Outboard Regatta this spring.

To date the work of the Outing Club has been limited to winter sports and sponsorship of the annual Winter Carnival, a mid-winter social function on the campus. The idea of a regatta originated out of the idea that the organization should expand its work into spring activity. The first idea came from Prince E. Danforth, a member of the council of the club, whose first suggestion was that the Club organize a water carnival in conjunction with the annual Junior Promenade week festivities. The idea was snapped up and with much revamping, all for the better, the result is the First Intercollegiate Outboard Regatta.

The first idea for the outboard races was to invite two or three universities in northern New York State to organize teams and compete with a squad from Colgate on Lake Moraine, a body of water on which the Outing Club has one of its cabins, on May 16 and 17. At that time there was no idea that the races would be official in any way, but just a new field of competition between these few colleges in the state.

Several men were approached concerning the matter and co-operation to the nth degree was pledged by them all. College Humor Magazine, through its sports editor, Les Gage, heard of the projected regatta and pledged a Gold Trophy for one of the first places. Pledged co-operation was advanced from all corners of the outboarding world and the Council, through a Regatta Committee which had been appointed in the meantime, announced that it would cast off the first plan and organize and sponsor the first officially sanctioned regatta with as many colleges competing as would enter.

The Regatta Committee, consisting of Danforth, Livingston B. Reuter, president of the Outing Club and the writer, proceeded to send out publicity about the projected races and from that time on the idea has literally been taken to heart by the outboard enthusiasts in about twenty-five colleges and universities east of the Mississippi as well as the outboarding world. The Outing Club was recently elected into membership in the American Power Boat Association, and in the near future an application will be made by the club for a sanction for the regatta.

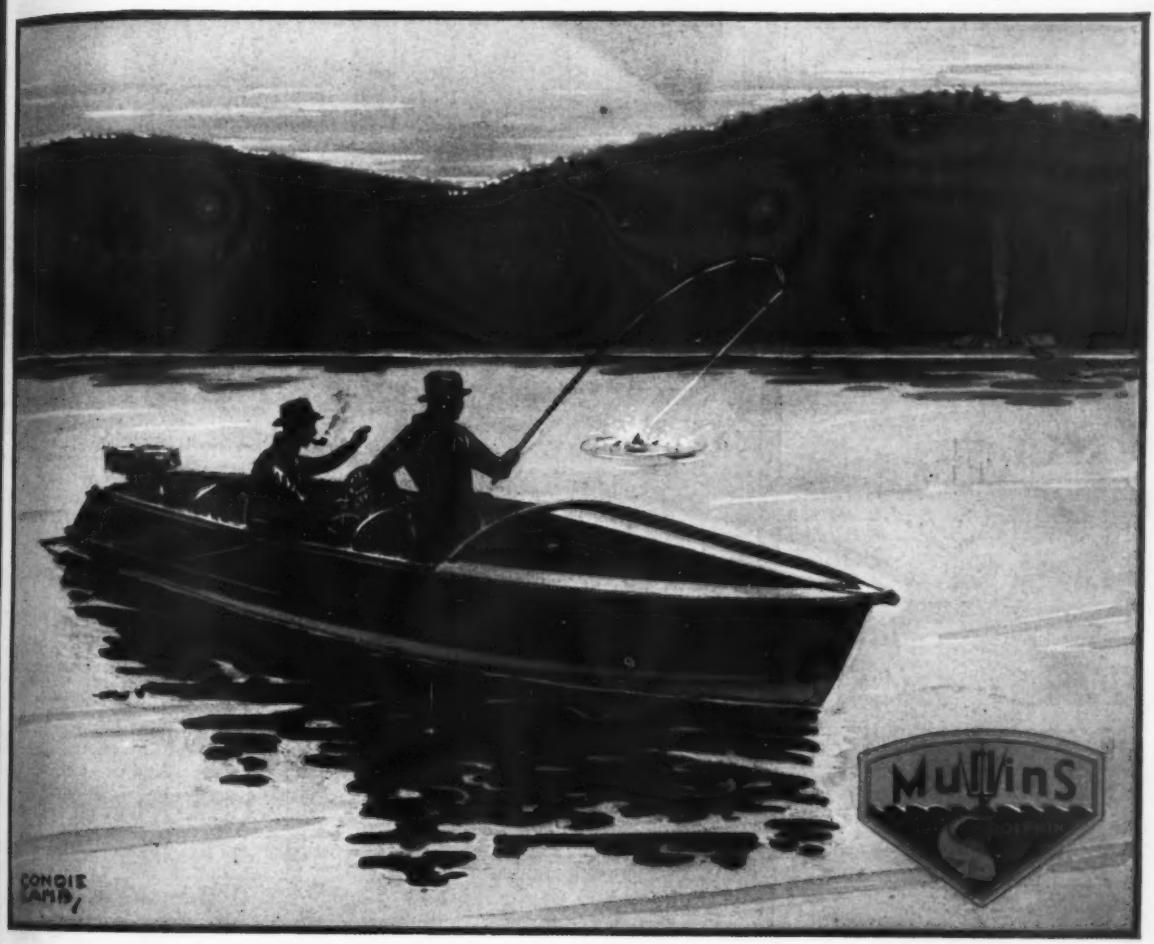
With the regatta heard of but little, the Regatta Committee visited the National Motor Boat Show in New York in an effort to arouse public interest in the event. Making their headquarters in the booth of the National Outboard Association, the three men advanced their plans to some of the leaders in the motorboating field, including Charles F. Chapman, editor of MoToR BoatinG and secretary of the American Power Boat Association Racing Commission. Mr. Chapman pledged his greatest co-operation and was instrumental in putting the trio in touch with other men. National publicity was sent out daily by the National Outboard Association and much space was given in the newspapers of the country who snapped up the opportunity to feature a new development.

Through the contacts made at the Show the Committee was able to report back to the Outing Club at the end of the week that thirteen trophies instead of one had been put up for competition, the value of these approaching $2,500. Instead of the one it had previously donated, College Humor magazine announced to the promoters that it would present four Gold Trophies. Other trophies were donated by Jay W. Smith, president of Chris Smith and Sons, makers of Chris-Craft boats, J. H. Reuter, of Providence, R. I., and father of the president of the club, Robert D. Houston, of Chicago and several other men.

Entries have been received almost daily by the Com-

(*Cont'd on page 210*)

E. P. Danforth, Chairman, L. B. Reuter, President, G. R. Rowe, Director of the Colgate Outing Club which is organizing the First Intercollegiate Outboard Regatta

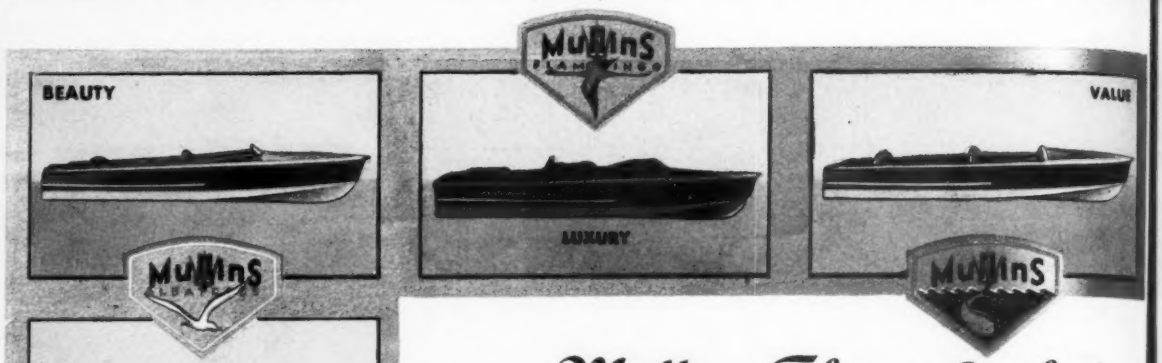


The Early Worm Catches the Fish

SWISH! Here comes another. With bait, lure or fly, Mullins boats are first at the fishing grounds . . . first everywhere . . . no delays. The leak-proof, puncture-proof, unsinkable Mullins hulls of corrosion-resisting metals are always ready to go.

Whether you choose the Dolphin shown above or any of the eight new Mullins models described on the next page, your first cost is your last . . . upkeep is nothing.

Flashing colors, dashing speeds, luxurious comforts, lifeboat safety for frolic, race or dependable transportation . . . Mullins boats lead now as they have for more than a generation.



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AMERICA'S most beautiful pleasure craft brilliantly colored in enduring marine lacquer, offering flashing speed, luxurious comfort, lifeboat safety with indestructible, puncture-proof, leak-proof, unsinkable hulls of corrosion-resisting metals, for salt or fresh water service.

CONDENSED SPECIFICATIONS MULLINS OUTBOARD BOATS

MODEL	Length—Feet	Beam—Inches	Transom Height—Inches	Weight Pounds	APPROX. SPEED Miles per Hour — Size of Motor			
					A	B	C	D,E
PENGUIN	14	48	—	230	Rowboat			
LARK	14	52	15½	270	10	12	—	—
DOLPHIN	15	56	15½	425	—	20	27	30
ALBATROSS	15	56	15½	490	—	20	27	30
FLAMINGO	15	56	15½	550	—	20	27	30
ROADSTER	15	57	*	370	—	25	32	35
TORPEDO	13½	51	14½	200	—	40 to 50		
TARPON†	13½	51	14½	225	—	40 to 50		

* Adjustable 13", 15½", 17" † Torpedo with double cockpit

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Complete specifications, colors, prices and valuable information every man will welcome before he buys a boat . . . all in the Mullins Boat Book. Get your copy now.

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Margaret Mullen—1 record, Class A, Div. 1.
"Chuck" Hall—2 records, Class A, Div. 2.
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Chas. Holt—2 records, Class B, Div. 2.
Bill Lyon—3 records, Classes B and D, Div. 1.
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"A"
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CLASS	
A	2 out of 4 records
B	10 out of 11 records
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30 of the 36 official outboard records made with Mobiloil!

Racing drivers swear by Mobiloil because they can *count on* the extra "revs" needed to come in first. Sold in every State in the Union—look for the red Gargoyle sign.

VACUUM OIL COMPANY

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1929 ACTIVITIES OF THE N. O. A.

Summary of the First Annual Report of the Executive Secretary of This Fast Growing Association

A REPORT to the Board of Directors by the Executive Secretary of the National Outboard Association shows especially encouraging results from the first year of the association's operation, and indicates how efficiently all departments have functioned and how repidly they have progressed during the short span of their existence. Actually the report covers only a period of nine and a half months, since the association headquarters were not opened until the middle of March, 1929. Extracts of the report are reprinted below.

At the close of the present year the status of membership was as follows: charter membership, 2,719 (consisting of former A.O.M.A., M.V.P.A., A.P.B.A. and other clubs applying for charter before July 1, 1929); regular, 500, at-large, 1,762. Total, 4,981.

The association and regular memberships are divided among 104 clubs scattered over thirty-five states.

The above association figures are based on the report of the larger associations and it can safely be said that the existing membership is well over 5,000.

This represents an increase of 3,761 members and forty-four clubs over those originally taken over from the A.O.M.A.

Members at large in A,O.M.A were 28, this figure having been increased by 1,734, or a total of 1,762.

Several prospective clubs have developed and a doubling of memberships and clubs is expected in 1930.

All clubs have been furnished with materials such as membership cards, pins, racing rules, driver's registration cards, constitution and by-laws, time and score pads, and were assisted in drafting regatta and carnival programs, in addition to many other personal services.

Burgees, race posters, cap buttons and boat transfers are available at a nominal cost.

The finances of the organization have come from three sources—membership dues, co-operative support, and the sale of decalcomania transfers to the various hull and motor manufacturers.

The insurance program inaugurated by the association during the past year has been a valuable asset to the association as a whole and responsible in a great measure for the increase in the membership at large. Over 2,000 members have insured their equipment, valued at $718,315, and premiums amounting to $15,850 were paid thereon.

A careful analysis of the various causes for adjustment proved that the present rate charged was inadequate. Because of this fact, it became necessary to provide other arrangements in 1930. The rates, however, will be only slightly increased and a special plan for racing boats and motors has been provided, which is as follows: 2½% on fire and theft, 6%, including marine perils and 10% on racing equipment. All claims in the future, under the new plan, will be adjusted in Chicago and thereby eliminate the delays experienced heretofore.

Due to considerable agitation against the noise of the outboard by lake residents, caused by the running of unmuffled motors and disregard of boating etiquette in general, and by reason of the fact that it was a legislative year, the organization was immediately confronted with a considerable amount of adverse legislation. Iowa, New Jersey, Connecticut, Michigan, Wisconsin, New Hampshire, Indiana, Alabama and Oklahoma have either passed or considered various types of legislation regulating the use of motor craft and particularly the use of outboards.

The national organization, through the co-operation of boating associations, persons interested in water motoring and personal contact with state and local authorities, has been able to have such legislation killed, modified or held in abeyance.

The motor manufacturers have co-operated to the fullest extent in time, engineering ability, research and expense in an effort to reduce the noise of motors to a minimum. Considerable improvement in this respect will be noted in the 1930 models.

The association is opposed to the running of unmuffled motors, except during a recognized regatta, and the Secretary will appreciate any advice as to adverse legislation that is being considered by state or local bodies so that they may have opportunity to take the necessary steps to co-operate with these various bodies in the drafting of proper legislation.

The secretary has addressed several boat clubs and other organizations on adequate housing and docking facilities, racing rules, carnival and regatta programs and water motoring in general during the past year.

Motion pictures of regattas, fishing and outdoor life are being used in connection with the several speaking engagements.

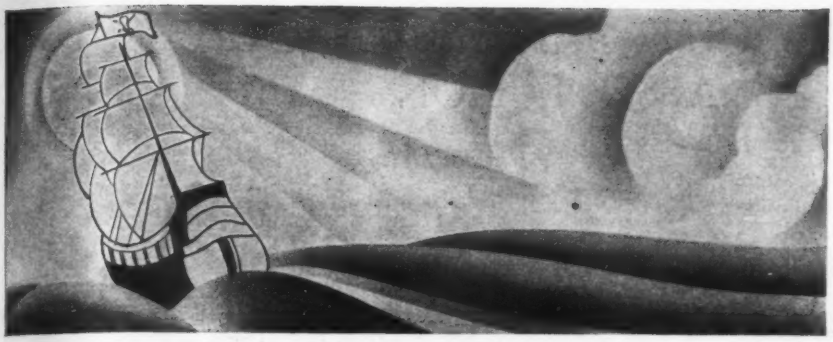
The organization was represented by the secretary at the following major regattas: Albany-New York Marathon, Worcester Regatta, Peoria Marathon and National Championship, Chicago Journal Gold Cup Races, Detroit Gold Cup Regatta and various smaller races in and around the states of Illinois and Wisconsin.

While in attendance at these various regattas, the secretary has co-operated and given such personal assistance as required to the local committees in making the several events successful.

Early in the fall a representative of College Humor, a college publication, visited the office and proposed a plan for outboard races in the several colleges having water facilities.

The organization readily co-operated with them in formulating plans and there are now some twenty college outboard clubs under formation, among the student bodies for the promotion of outboard racing. Among the several colleges interested are the following: Colgate, Occidental, Butler, Michigan, Wisconsin, Toledo, Birmingham-Southern, Marietta, Alabama, Northwestern, San Diego State, California, Syracuse, Hamilton and Cornell.

Gold cups will be given to each school holding these regattas. Although not a recognized activity in the Athletic Departments at this time, a considerable interest in the events has been displayed by the Athletic Directors in the several institutions, and it is only a matter of a few years before racing will be under the supervision of (*Continued on page 23*



Ride

. . . in the wake of the Buccaneers

HIGH adventure stirs where waves ripple and spray flies. Shove off in the wake of the Norsemen and the Buccaneers. With an outboard motor you can puff along at a dog trot, or dash through the water at close to express-train speed.

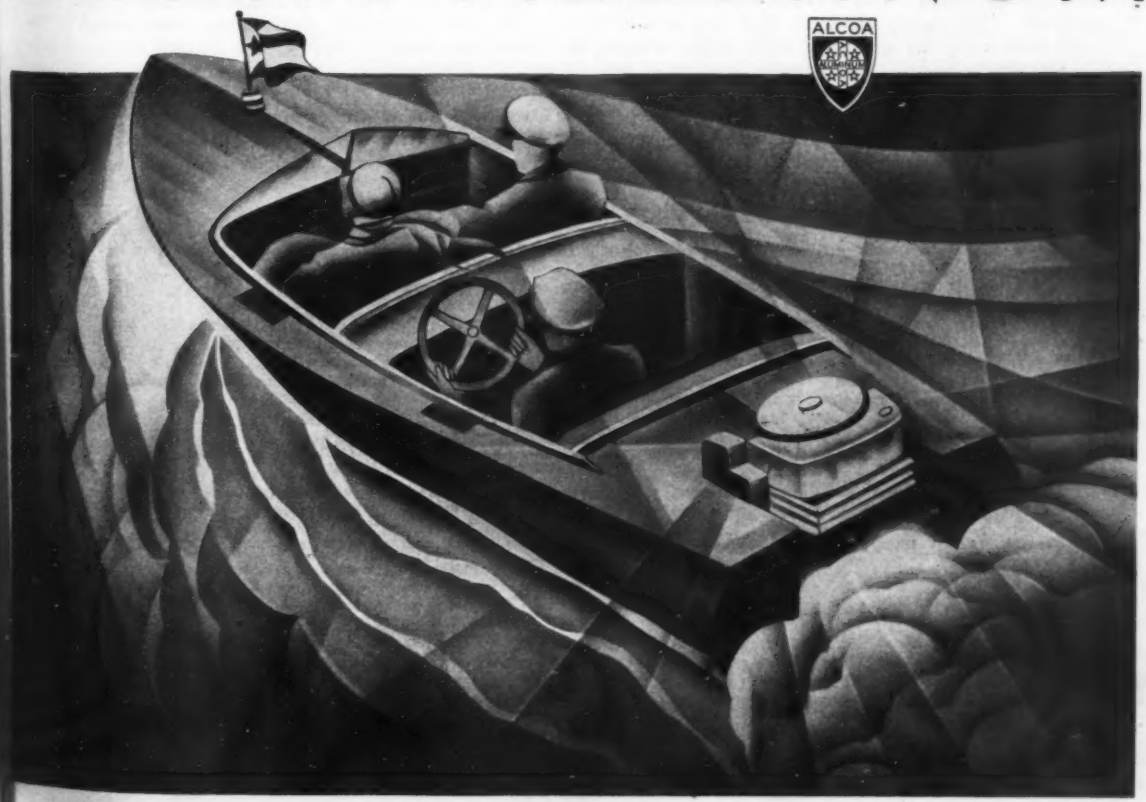
Today, the outboard motor has doubled and tripled the pleasure of leisure for countless thousands. Its quick answer to the throttle, its smooth-flowing power, its reasonable price—the wonderful escape it provides from the hum-drum of everyday life—has made motor boating a premier sport.

The outboard motor owes its great popularity to the light, strong Alloys of Alcoa Aluminum. They made it possible for engineers to put the speed of many horses into a compact, flexible, yet powerful engine unit.

Using these light, strong Alloys, designers have shaved weight to a shadow, and yet retained the rugged strength and necessary resistance to salt water corrosion.

Before you buy an outboard motor ask your dealer to show you its many parts made from Alcoa Aluminum Alloys. Make sure, too, that its engine is equipped with Lynite pistons and rods made from Alcoa Aluminum. ALUMINUM COMPANY of AMERICA; 2487 Oliver Building, PITTSBURGH, PENNSYLVANIA. Offices in 19 Principal American Cities.

ALCOA ALUMINUM



NATIONAL OUTBOARD RACE DRIVERS' ASSOCIATION

A Recent Organization Composed of Racing Drivers from All Sections Formed to Further Their Interests and Promote Better Racing

WHEN the 1930 Outboard Racing Rules were formulated by the National Outboard Association, it developed that there were certain features of these rules which did not quite meet with the full approval of the outboard race drivers. The sentiment for modification of the rules proved so strong that it led to the formation of the National Outboard Race Drivers Association which undertook to see that the desires of the drivers were met in the new rules. As a result, changes were granted in these and they are principally that expense money, otherwise cash, may be allowed to drivers in Division II, in an amount not to exceed $100 in lieu of prizes. Hulls may be reinforced, by the addition of any strength members to bring them up to the specified 1930 weights. This was not permitted under the original 1930 racing rules, so that the modification will permit the use of present hulls when brought up to the weight limits. The several divisions, I and II will be strictly stock, but in addition expense money, cash prizes, will be permitted in Division II.

DURING the conferences which were held preliminary to the revision of the Outboard Racing Rules for 1930, it became evident that the outboard race drivers were not in entire accord with the proposed rules. The need for an organization of race drivers to present their views of the proposed rules lead to the formation of a new organization to be called the National Outboard Race Drivers Association with headquarters in Waukegan, Illinois. Albe and energetic men were selected from among representative drivers and the organization will probably fill a necessary gap among the many which take a hand in the control of racing.

At a conference with representatives of the Outboard Manufacturers Association, the drivers were assured that the manufacturers would not engage in racing either directly or indirectly. From all this it is plain to be seen that this new association has been exceedingly busy in the race drivers' interests. Results have been obtained and it is very evident that this is all the result of organization. Work of this kind cannot be carried on without funds and it was decided that a small initiation fee and dues payments would be sufficient to carry on the work of the organization. These fees were fixed at $3.00 for the initiation and $5.00 for the year's dues. For these the Association will send to its members monthly bulletins of information and the new lapel button which is now being made. It is proposed also to supply racing helmets and suits which will be uniform in color and design with the N. O. R. D. A. emblem on them.

In order to secure a good average cross section of the ideas and thoughts of the race drivers on this whole plan a questionnaire was sent to all known race drivers.

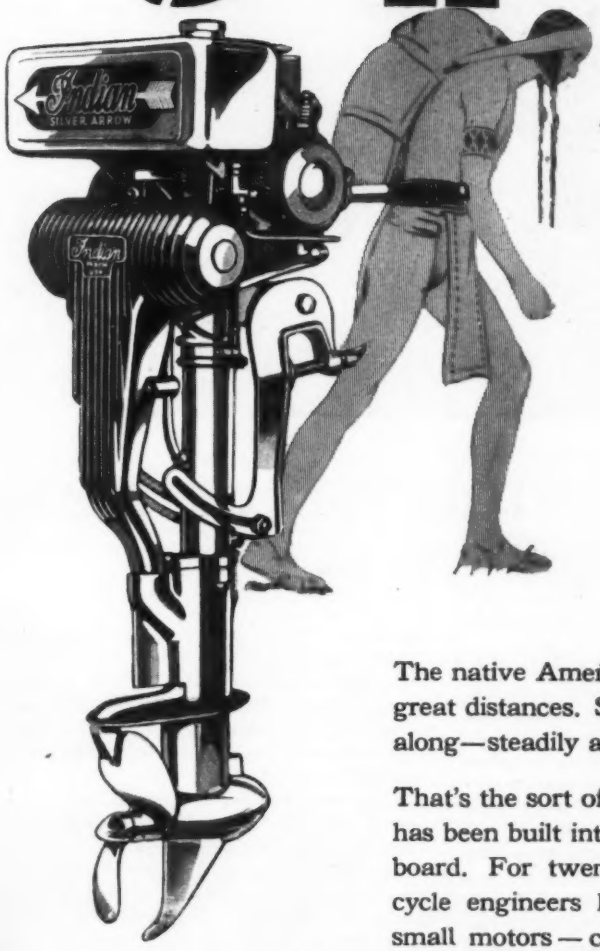
An analysis of the replies to the questionnaire which was sent out is interesting. There follows both the question and the concensus of answers which were received from the large number of drivers who replied.

THE QUESTIONNAIRE AND THE ANSWERS

1. Who is your choice for Commodore? Carl Koeffler, Wauwatosa, Wisc.
2. Who is your choice for Vice Commodore? Ben Coler, Gary, Ind.
3. Who is your choice for Secretary? Lew Hewes, Waukegan, Ill.
4. Who is your choice for Treasurer? Lew Hewes, Waukegan, Ill.
5. Shall we divide the country into five sections, North, South, East, West, and Central States, electing Directors from each Section? Yes, thereby making it representative.
6. How many Directors shall we elect, five, ten, or fifteen? Fifteen.
7. Choose 15 Directors (elected in order named): North Section: H. L. Davies, Milwaukee, Dr. David Downing, Detroit, Norbert Diederich, Madison. Central Section: Dick Upsall, Bass Lake, John Maypole, River Forest, Chas. P. Hanley, Muscatine. Eastern Section: Al. Buffinton, Fall River, Wm. C. Schanz, Caldwell, Walter Widegrin, Glen Cove. Southern Section: Harrison Frazier, Auburndale, Malcolm Pope, Winterhaven, Eugene Pickard, Wilmington. Western Section: Grover Speegle, Watsonville, Loretta Turnbull, Monrovia, Jas. J. Tregoning, Seattle.
8. Shall Directors be empowered to make Constitution and By-Laws? Yes.
9. What restrictions do you want placed on motors by divisions? Div. I, strictly stock. Div. II, strictly stock. Div. III, non-stock, limited only by bore and stroke, number of cylinders which must be same as stock model of motor used.
10. Are you satisfied with the 1930 Racing Rules just announced? No.
11. Shall the N. O. R. D. A. make their own new rules? No. Should confine to suggesting, but urgently request representation to be given the N. O. R. D. A. on National Committee that makes the rules. Until that time suggest only.
12. Shall the N. O. R. D. A. issue sanctions for races? This should be a Racing Association only.
13. Shall the N. O. R. D. A. create an Inspection Committee of their own? No. In event of dispute, proper procedure through officials. If still not satisfied report to N. O. R. D. A., who may request rehearing through proper channels.
14. How much should our initiation fee amount to? $3.00 payable with application, making it small enough so that driver can affiliate where he chooses.
15. How much should our annual dues be? $5.00 per year now paid. In advance.
16. Do you favor limiting boat weights? Yes, but not till 1931 due to fact that many good boats are now in drivers' hands, and still in dealers' and manufacturers' stocks. Should permit adding weight.
17. Do you favor eliminating cash prizes in Div. I and Div. II? Div. I only. Div. II and III cash.
18. Do you favor making Div. III unlimited in all respects? No. The man with

(*Continued on page 236*)

POWER



The native American Indian carried heavy loads great distances. Silently, rapidly, he would push along—steadily and untiringly.

That's the sort of dogged, unfailing power that has been built into the Indian Silver Arrow Outboard. For twenty-seven years Indian Motocycle engineers have been building successful small motors — compact, powerful engines for the gruelling duties demanded of a motorcycle. Indian Motocycles hold all records for endurance. Endurance—dependable power—is what you want in an outboard motor. See this remarkable power plant before you buy any motor.

Descriptive literature and dealers' names sent on request. Convenient service stations everywhere.

SPECIFICATIONS

Motor—High speed twin cylinder, two-stroke, three-port type. Bore 2½", stroke 2". Piston displacement 19.63 cu. ins. Motor speed 4500 R.P.M. Gear reduction to propeller 100 to 60.

Cylinders—Exclusive *Indian* Silver Arrow cast iron cylinder sleeves. Cylinder heads and water jackets of heat treated aluminum alloy. Hot Head Motor design.

Connecting Rods—Carefully balanced phosphor bronze; extra large bearings on crankshaft and piston wrist pin.

Pistons—Special *Indian* aluminum alloy fitted with two piston rings, designed for maximum performance with *Indian* Hot Head cylinder.

Crankshaft—Nickel steel forging, balanced. Hardened and ground to mirror finish. Main bearings 15/16" dia.; 2½" long. Crankshaft bearings, 15/16" dia.; 1 3/16" long.

Ignition—Waterproof high tension Bosch flywheel magneto with cut-out button.

Carburetor—Tillotson automobile type; *Indian* handle grip control.

Cooling System—*Indian* pressure type with visible outlets. No pump or valves used with this system.

Underwater Exhaust—One-piece silencer constructed of silicon aluminum alloy. Fitted with heat dissipating fins and cut-out.

Propeller Shaft—Stainless steel, heat treated, ground; runs on bronze and ball bearings.

Gears—Heat treated alloy steel. Pinions, twelve teeth; gears, twenty teeth.

Price $185.00
F. O. B. Springfield, Mass.

Indian SILVER ARROW

OUTBOARD MOTOR

INDIAN MOTOCYCLE CO., Dept. M, SPRINGFIELD, MASS.

A group of merry outboard devotees about to start out for a day's fun equipped with good boats and engines

THE MONTH WITH THE OUTBOARDS

Items of Particular Interest to Followers of the Sport

OUTBOARD SEA SKIFFS

THE clinker type of boat construction is recognized by many as being the ideal method where a maximum strength is to be secured by minimum weight. The Lyman Boat Works of Sandusky, Ohio, are exponents of this style of boat building and, in fact, pioneered it, having manufactured lapstrake boats for considerably more than half a century. Their line comprises quite a number of sizes for a variety of purposes, including standard and deluxe runabouts, open sea skiffs and speed tenders, with models ranging in length from eight to seventeen feet. A very good idea of the style and construction of these boats may be had from the Lyman catalogue, which is available to anyone free of charge. Inquiries may be addressed direct to the factory or for those in the New York metropolitan area to Bruno Beckhard, Northern Boulevard at Flushing Bridge, Flushing, Long Island, N. Y., who is the Lyman representative in this territory.

CUP OFFERED FOR COLLEGE OUTBOARD

From Florida to Wisconsin—from California to New York—college students are turning their motors, mentally if not in reality, with thoughts of their first competition in a college outboard race. Young drivers in all sections of the country have become enthusiastic with the idea of entering one of the College Humor Gold Cup Outboard races.

A handsome trophy has been secured and is but one of the many elaborate awards provided for the winners of these regattas. The College Humor Gold Cups will become the permanent property of first-place winners in the different schools. Runners-up in the events will receive other valuable awards.

This cup stands twenty inches in height, including the black bakelite pedestal upon which it is mounted. Upon the cover is the replica of an outboard pilot driving his racing craft—a striking bit of action. The engraving conforms with names and dates of the various institutions where races will be held.

Twenty-three colleges and universities have expressed a desire to race this spring. Many have named dates for the events and have organized committees to co-operate with College Humor in staging their local meet. At Hamilton, New York and Los Angeles, California, the regattas have acquired an intercollegiate aspect, the officials at Colgate University and Occidental College having invited outboard drivers from neighboring schools.

One of the 1930 Hooton Safety-Plane racing models

WINTER REGATTA AT TAMPA

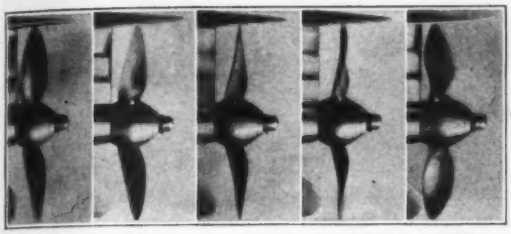
Racing outboards again churned the waters of Tampa Bay on the afternoon of December 30, when more than thirty of them competed in a holiday regatta over the Davis Islands Marine Speedway. The field entered was one of the fastest ever assembled for a Tampa outboard regatta.

Six races between class B and D boats, a junior league runabout feature and a Sea Scout race were interesting events. The B and D races were between drivers who have won fame as circuit riders of the outboard world, among whom were Malcolm Pope, Jack Kerr, Earl Gresh, Harrison Fraser and Cal Meloon.

A small fleet of northern craft were on the scene, driven by Henry Joy, Colonel Tooey, Leach Cracraft, D. C. Hartle, Jim Gelatt,

(*Continued on page* 218)

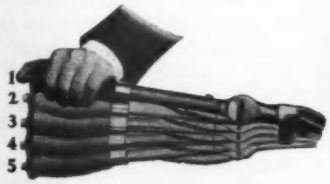
2 GREAT FEATURES ELECTRIC STARTING MULTI-FLEXIBLE CONTROL *on the NEW* 1930 CAILLE RED HEADS



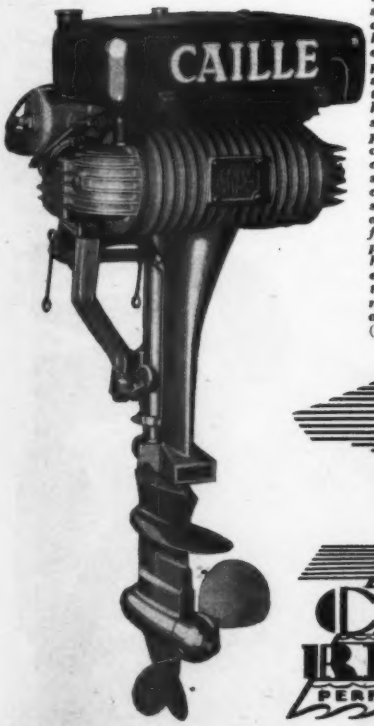
A B C D E

PERFECT CONTROL

Caille Red Head motors offer you perfect one-hand control. Everything is done from one control-lever—steering, throttle variations, speed changes through the Multi-flexible Control Feature.



This exclusive Caille Red Head feature is the marvel of all who see it. Through a simple, practical variation in the pitch of the propeller, the amount of "bite" it takes out of the water is controlled, thus giving speed changes without overworking the motor itself. Figure 1 shows the position of the control handle to get the corresponding propeller pitch, shown in "A" at the top. This gives high, or third speed forward. By pressing a button on the end of the control lever, speeds may be changed more simply than on an automobile, until five changes of propeller pitch have given you every speed variation, including neutral (Fig. D.) and also reverse (Fig. E).



Enthusiastically hailed everywhere as the last word in outboard motors, the new 1930 Caille Red Heads lead the field in finished performance. Their enthusiastic reception at the leading Boat Shows and Sportsman's Exhibits forecast the public trend toward outboard motors that really give outboard users the same flexibility of control they now enjoy in their motor cars.

Caille Utility Red Heads start in neutral at the touch of the hand on the starter button. A simple movement of the control lever shifts into slow reverse, for backing away from the dock. Three speeds forward—trolling, low, and high—may be obtained by further movement of the control lever. Any speed you desire is available through Caille's exclusive Multi-flexible Control feature, found in no other outboard motor, and instant "four-wheel brake" stops can be made by shifting from high to reverse.

Added to these are many other features, such as quiet, water-muffled exhaust; full ball-bearing construction that lengthens motor life and saves oil; and machined and balanced piston units for an even flow of power. Centrifugal cooling keeps your motor at the right temperature, even when idling. The motor can also be locked on the boat, preventing theft. Many other features make a Caille Red Head the logical outboard motor for you to select, for outstanding performance, ease of handling, and long life.

The beautiful new Caille Catalog shows the full Red Head line for 1930, and explains Caille's many wonderful features in detail. It will be sent to you free of charge. Just clip the coupon below, and mail it today.

CAILLE MOTOR COMPANY
6233 Second Blvd. Detroit, Michigan

There's a Great Dealer Opportunity with the NEW 1930 Caille Red Heads

Caille Red Heads for 1930 offer the features that the public demands, and can get in no other outboard. Think of the profit possibilities for you! Write or wire today for the new Profit-Building Franchise Offer. No obligation.

MAIL COUPON for CATALOG

CAILLE MOTOR COMPANY
6233 Second Blvd., Detroit, Mich.

Gentlemen:

( ) Please send me copy of your new Free Catalog for 1930.
( ) I am interested in the Caille Profit-Building Franchise.

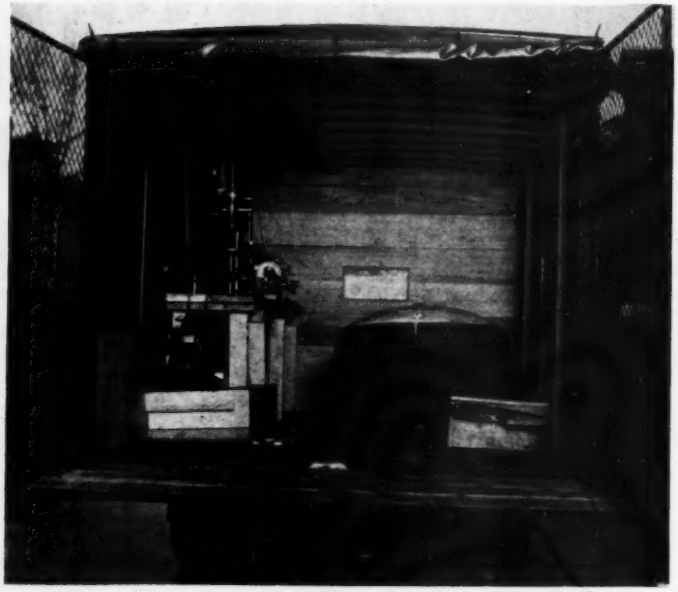
Name_____

Address_____

City_____ State_____

THE MONTH WITH THE OUTBOARDS

(*Continued from page 216*)



This truck owned by J. T. Milliken of St. Louis, Evinrude distributor, serves the double purpose of transporting his racing boat to the various regattas and providing a workshop as well

Walter Pate, J. T. Milliken and C. L. Knight.

In the actual racing, class honors and top money went to Colonel S. Tooey of Boston, and Jim Daniels of Winter Haven. Tooey won first place in class D, driving his rough-riding Miss Celo home first in one of the three heats and taking second place in the other two. The winners were decided on a basis of points scored. Daniels, at the helm of Peanuts, finished first once and third twice to win class B laurels by a narrow margin. Daniels' point total was 1,048, while H. M. Fraser of Auburndale was close behind with 1,046.

Although no records were broken, the outboards traveled faster than ever before in a Tampa race. The big, four-cylindered class D boats averaged close to 42 miles an hour, while the class B craft ranged from 38 to 40. It was at least five miles an hour more speed in each division than was attained in Tampa's last outboard regatta.

DELAWARE NOTES

Date for the Philadelphia Outboard Regatta, and its classic feature race for the Sir Thomas Lipton $6,000 trophy has been definitely set, Commodore William Freitag announced to the Delaware River Yachtsmen's League at its January meeting.

The regatta will be held on the Schuylkill River as a two-day event, Friday and Saturday, August 8 and 9.

The Anchor Yacht Club of Bristol has applied for sanction of the A. P. B. A. for a two-day regatta, August 16 and 17. Championship canoe events of the American Canoe Association will be held the first day, followed by outboard and motorboat races the second day.

A vigorous election full of campaigning marked the choice of Fred Schultz as president of the Trenton Yacht Club at its annual meeting early in January. Other officers elected were Ray F. Kelley, commodore; Edward D. Danser, vice-president; J. B. Woolsten, financial secretary, and Joseph A. Hart, treasurer.

Frederick von Nieda, secretary of the Delaware River Yachtsmen's League, was re-elected president of the Farragut Sportsmen's Association of Camden, N. J., at the annual meeting December 26. Other officers elected were Joseph Campbell, commodore; vice commodore, Fred Reed; rear commodore, Charles Erickson; fleet captain, William Lynn, financial secretary, Walter Schellinger, and secretary, William Lynn.

C. L. Naylor is the new commodore of the Riverside Yacht Club, elected December 26, at an enthusiastic meeting. Other officers are vice commodore, Alex T. Craig; rear commodore, George Wright; treasurer, Frank Russell, and secretary, Ed. McF. Jordan.

The West End Boat Club of Chester, Pa., elected new officers for 1930 as follows: president, A. C. Hartman; vice president, T. G. Cahall; financial secretary and treasurer, W. F. Rickey; recording secretary, W. E. Harper; commodore, E. G. Edwards.

The Camden, N. J., Yacht Club has sold its property at the foot of Second Street, Camden, and is about to pass out of existence. It resigned its membership in the Delaware River Yachtmen's League at the January meeting and will shortly drop the rolls of the A. P. B. A. The club was formerly one of the most active racing clubs on the Delaware.

MINOCQUA PLANS FOR SUMMER

The Minocqua Boat Club of Minocqua, Wisconsin, has plans for next season already well under way. There will be three official outboard regattas during the summer sponsored by the Mississippi Valley Power Boat Association, of which the club is a member. The first of these will be on Saturday, July 5, in conjunction with the two-day Independence Day celebration at Minocqua. The second official races will take place (*Continued on page 220*)

Loretta Turnbull and Barbara McCartney were chosen as "commodores" of the Los Angeles Boat Show

GO! Get out on the water this year and enjoy super-holidays! Go with the handiest, most satisfactory boat power known—an inexpensive, portable outboard motor. Go . . . decide first and now on that!

And when you go . . . . go with an Evinrude!

Never has your Evinrude dealer offered so many models to choose from. Nor at prices so attractive.

Now you may have the world-famous, easy-starting EVINRUDE Speeditwin in two models—20 H.P. and 22 H.P., both with underwater silencers and with ball and roller bearings on crankshaft, connecting rods, drive and propeller shafts.

Now you may have *Electric Starting* — instant, effortless starting at the touch of a switch, with current for spotlight and running lights. Speeditwin in the 22 H.P. model is so equipped.

For any make of heavy rowboat or light runabout, the EVINRUDE 14 H. P. Fastwin is a splendid choice, being simply a smaller edition of 20 H. P. Speeditwin. For still lighter work, choose EVINRUDE 7 H.P. Fleetwin.

For average rowboat and any size or type canoe, select FOLD-LIGHT, world's lightest, handiest twin-cylinder outboard. Weighs only 29 pounds. Full 2¾ H.P. *It folds*—to only 17 inches by 13¾ inches by 11½ inches!

Write for FREE copy of the new 32-page EVINRUDE Year Book which gives interesting, complete descriptions of all models with speeds attainable on all types of boats.

EVINRUDE DIVISION
Outboard Motors Corporation
530-27th Street
Milwaukee Wisconsin

OUTBOARD MOTORS CORPORATION

EVINRUDE
with
ELECTRIC
Starting
22 H.P. Speeditwin

20 H. P. SPEEDITWIN
Rope Starting

14 H. P. FASTWIN

7 H. P. FLEETWIN

2¼ H. P. FOLD-LIGHT
Only 29 lbs.

THE MONTH WITH THE OUTBOARDS

(*Continued from page* 218)

on Friday and Saturday, August 7-8, and will be in conjunction with Land O' Lakes Week, which the Minocqua Boat Club is sponsoring. This week is to consist of racing and other activities at a different town in the Northern Wisconsin Lake Region each day, ending with the two days of official racing on the home course. It is expected that many prominent outboard drivers will be entered in these races. Monday, September 1, will see the Second Annual Labor Day races of the club, and these, too, will be official. Races will also be held for club members every two weeks during the season. A season cup will be awarded on the basis of a point system for these races.

The club was founded last summer and held two successful regattas. Last fall it was admitted to the Mississippi Valley Power Boat Association. It hopes to have a club house before the end of the next season. The plans for 1930 were announced at a dinner in Chicago late in December, attended by prominent racers and such men as Secretary George Hoehn of the N. O. A.; Commodore Gilles of the M. V. P. B. A.; Jim Mulroy, and Milo Westbrooke.

A. G. Schlee, G. L. Spencer and G. R. Thompson with the first electric-starting Evinrude Speeditwin, delivered from Milwaukee to Detroit by 'plane

OLE EVINRUDE'S MESSAGE

The following is the text of a message prepared by Ole Evinrude and read for him in his absence by D. K. Chadbourne at a recent meeting of the Outboard Motors Corporation:

"Like all industry, ours will grow and prosper directly with the satisfaction and service benefits which our customers enjoy in the use of our products.

"In designing and building our motors I always try to bring my own conceptions around to meet the user's requirements so far as that is consistent with the production methods, for we must always have in mind that the user is entitled to a lot for his money.

"I like to think that instead of selling a mechanical device we are distributing a means of clean pleasure, healthful recreation, safe transportation and another opportunity for developing in our boys and girls self reliance, resourcefulness and good sportsmanship.

"Our country is prosperous, the rest of the world is rapidly recovering from depression. People everywhere turn to the water for recreation or occupation. Our products serve their needs more admirably than any other form of propulsion, are inexpensive to buy and maintain and allow the user to explore and enjoy waters which he would not dare enter with the conventional type of marine engine and boat.

"Due to merging the Elto, Evinrude and Lockwood companies into our Outboard Motors Corporation, we have increased our resources of capital and experience and are better prepared than ever before to develop and produce outboard motors for every old and new lover of the water. Our new models with electric starters, the wonderful little Fold-Light model and the intermediate motors are corporation achievements of which we may be justly proud.

"The outlook is very favorable for us and for our customers."

Ute Buoy, newest in life-preserver suits, makes an ideal garment for outboard racing drivers

THE ALBANY-NEW YORK TROPHY

W. E. WILLIS, Secretary of the Middle Atlantic Outboard Association, has just received from the Yacht Motor Club of France the trophy which will be awarded to the owner of the boat making the fastest time in division I or II in the Albany to New York race on April 26. The grand prize of $500 will be awarded to the owner making the fastest time in either an inboard or outboard boat. In April, 1929, Jaques Menier offered to donate 1000 francs towards the trophy and the Yacht Motor Club of France accepted the offer, agreeing (*Continued on page* 222)

Why • •

You will want to own a 1930 Chase-Emerson MOTOR BOAT

Because the special frame design employing airplane construction is found only in these boats (see illustration);

Because the exceptionally deep free-board of graceful line easily turns water from the bow so that the boat remains dry and comfortable at all speeds;

Because the perfect streamline from bow to stern, with nationally known engines furnishing power, assures a faster, more graceful boat;

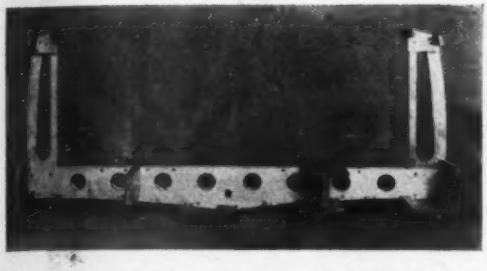
Because loads are so evenly distributed on Chase-Emerson boats that they answer their controls more quickly and smoothly;

Because you will feel the thrill and pride of ownership as you drive your smart boat from behind the gracefully sloping windshield;

Because, altogether, Chase-Emerson boats offer you watercraft superior in design, construction, performance, and beauty at most popular prices.

Models ranging from $995, $1195, $1295 to $1395, F.O.B. Norwalk, Ohio, according to size of hull and type of engine installation. Write today for detailed information about airplane-frame-construction Chase-Emerson motor boats.

New Frame Design



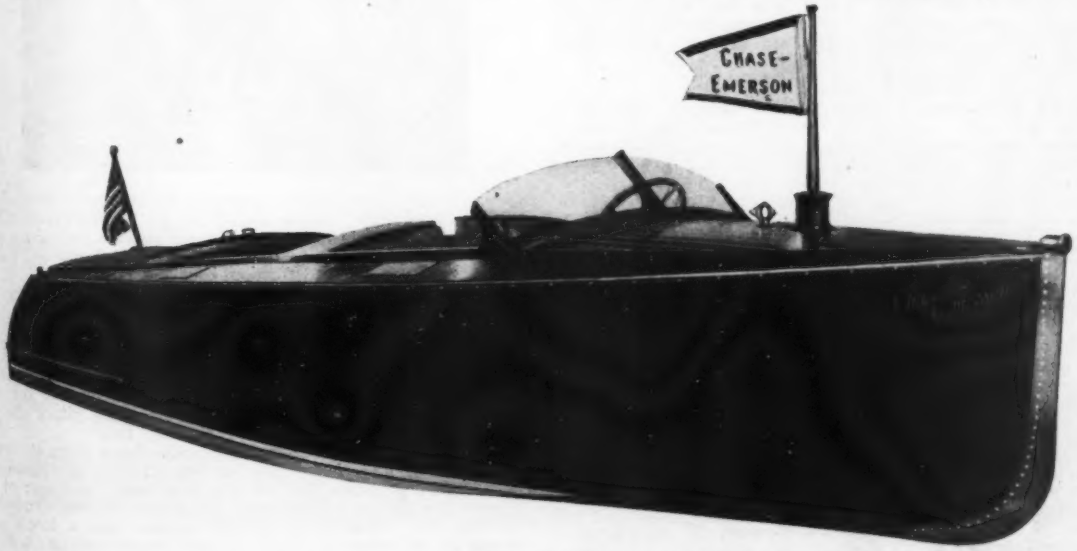
Airplane frame construction—exclusive feature in Chase-Emerson boats. Frames built up of two pieces finest grade airplane spruce riveted and brass-screwed through a strip of white oak and perforated to reduce weight.

Engine studs fastened to and over frames and locked with special wooden cleats. Rabbeted keel and chines of selected white oak. Flooring laid over frame, thus binding entire frame structure so sturdy that it easily absorbs the greatest strains imposed by hard usage.

A. B. CHASE-EMERSON CORP.

11 West 42nd St., New York City

Factory at Norwalk, Ohio



Equipment

Automobile steering wheel, instrument board, reverse gear, and power plants—four or six cylinder—of national reputation to assist in reliable maintenance and operation. Special seating arrangement with passageway between cockpits for convenience. Large locker space. Cushions of selected waterproof fabric of life preserver type, colored to harmonize with boat finish.

RETURN FOR INFORMATION

A. B. CHASE-EMERSON CORP.,
11 West 42nd St., New York City.
Gentlemen:
Please send me complete information regarding your airplane-frame-construction motor boats.

Name.....

Street.....

City..... State.....

THE MONTH WITH THE OUTBOARDS

(*Continued from page 220*)

to supply an additional 2000 francs. It was originally offered to the A. P. B. A. to be used as first prize in a marathon race, and in accordance with a suggestion by Commodore C. F. Chapman, it was offered to the Middle Atlantic Outboard Association for the Albany-New York race.

DUNNELL TO MANAGE LUDINGTON PRODUCTION

Jake Dunnell, well known as a designer of small craft and as the winner of many races in Ludington outboard racers, is now associated with the Boat Division of Ludington Aircraft, Inc., Philadelphia, as designer and production manager. Jake is the designer of Ludington's new craft for 1930—two runabouts, the Sportship and Sportship Senior, and three new racing jobs, the Lightning, Flash and Rocket. These latter are designed to conform to the new weight regulations of the National Outboard Motor Boat Association.

The 1930 line of runabouts and racing craft built by the Boat Division are on permanent display at Port Elco, 247 Park Avenue, New York City, and other convenient locations. The Sportship and Sportship Senior, the Lightning, Rocket and Flash may be seen and demonstrations arranged at any time.

A complete catalogue giving full information on the new Ludington craft of the waterways has recently been published by the Boat Division of Ludington Aircraft, Inc., 808 Atlantic Building, Philadelphia, and can be had free by addressing the company. The new Sportship and Sportship Senior, inboard power with outboard drive, are described, as well as the new racing models, the Lightning, Rocket and Flash.

ATLAS IMPERIAL ANNOUNCES SMALL DIESEL

The Atlas Imperial Diesel Engine Company of Oakland, California, who have devoted their efforts in the past principally to the construction of the larger diesel marine engines for the propulsion of big yachts and commercial craft, are now building a new model in the full diesel type designed for use in yachts and cruisers.

This model, the bore and stroke of which is 7 by 8½ inches, is Atlas' latest development in marine models and is the result of long experimentation, research and design to obtain a real full diesel for the smaller craft. It is built in four and six cylinder sizes, the former rated 80 h.p. at 600 r.p.m. and the latter 120 h.p. at 600 r.p.m. The net weights are 6400 and 8400 pounds respectively.

QUALITY OUTBOARDS

Gordon B. Hooton, of Grand Rapids, Michigan, well known for the high quality and excellent construction of their outboard runabouts and racing craft, have prepared a little pamphlet describing their various products and illustrating a new type of utility craft which they have just developed known as the Resorter. The new model is a 15-foot hull which has been designed to meet the demand for an out-and-out family boat of generous capacity, exceptional beauty, extreme seaworthiness and ample speed. No attempt has been made to compromise the design to make it in any sense a racing creation, but despite its wholesome family runabout characteristics it is capable of speeds as high as thirty miles per hour with absolute assurance of comfort and safety. The comfort factor is adequately assured by the Vee-Plane bottom, flaring topsides and high freeboard. Readers who may be interested in this new model or the other boats of the Hooton line may secure additional information by writing Gordon B. Hooton, 503 Grandville Avenue, Grand Rapids, Michigan, for their catalogue.

R. K. MacDOUGAL IN NEW POST

R. K. MacDougal, for the past five years advertising and sales promotion manager of the Johnson Motor Company, Waukegan, Illinois, manufacturers of outboard motors, has joined N. W. Ayer & Son, Philadelphia, as representative, effective February 3.

W. R. WILSON ASSOCIATES WITH BOYD-MARTIN

William Robert Wilson, of Detroit, and certain of his associates have entered the motor boating industry through the acquisition of a stock interest in the Boyd-Martin Boat Company, of Delphi, Indiana. Mr. Wilson is president of Allied Motor Industries, Inc., and the Copeland Products, Inc.

AERIAL OUTBOARD MOTOR DELIVERY

The first electric-starting Speeditwin from the production line of the Evinrude Division, Outboard Motors Corporation, has been delivered by airplane to the Evinrude Detroit Motor Company, of Detroit, Michigan. As the first motor neared completion, A. G. Schlee, president of the Detroit distributing firm, was notified by phone and arrangements were made for the plane to call for the motor.

Two hours and forty-five minutes later Mr. Schlee and Billy Brock, famous round-the-world flyers, swooped down to the snow covered field of the County Airport at Milwaukee. The motor was transferred from automobile to the Lockheed, and three hours later was on exhibition in Detroit.

The new electric-starting Speeditwin is exciting considerable comment, as it represents the more advanced development in outboard motor construction. All the conveniences found in inboard installations are now made possible with this remarkable new motor and these added to the well-known outboard advantages of greater space and cleanliness and free tilting, place the electric-starting outboard in a most advantageous position in the boating field.

H. C. Ruggles, service manager for the Dawn Boat Corporation, Clason Point, N. Y. He will take charge of the new and enlarged service facilities for both new boats and others in the yards

OUTBOARD WORKSHOP ON WHEELS

Trust the speed pilot, or the racing enthusiast, to devise the unusual and unique solution to any problem confronting him. Take J. T. Milliken, of St. Louis, Evinrude distributor and ardent sportsman, for example. Lured on by the opening of the racing season in Florida, Mr. Milken decided to take the next several months off and show the Florida speed pilots that St. Louis drivers can handle their outboards, too.

But merely deciding to go to Florida didn't settle the problem of transporting two boats and several Evinrude Speeditwin motors, nor providing for the repairing and adjustment of the motors during the racing season. So Mr. Milken (known to the outboard fraternity as J. T.) decided that a large truck would be the thing—one large enough to accommodate both the boats and motors, and at the same time leave sufficient space for a work bench upon which motor and boat repairs might be made. A large high-speed truck was purchased, and a work bench fitted up along one side. A lathe, grinder and buffer, and high-speed drill were then mounted upon the bench, and a ¾-h.p. gasoline engine was purchased as a power unit.

If the St. Louis racing team want to race at Miami this week-end, and Jacksonville next week, all they need to do is pack up the motors and boats in the truck, and speed to wherever their destination may be. If Mr. Milliken decides that the connecting rods need rebalancing, he need lose no time waiting for repair men, for his shop on wheels follows him wherever he goes.

(*Continued on page 238*)

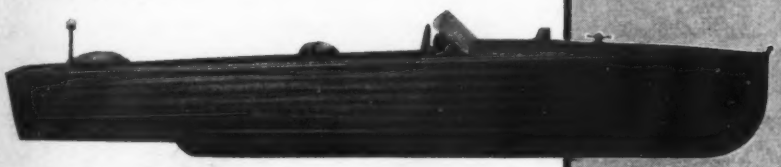
6 NEW BOYD-MARTIN BOATS

2 faster new . . . improved « « BULLETS » »

New design. New built-in stabilizers. Weights approved N. O. R. C. Completely equipped. Length 12 ft. All mahogany. Weight: Junior, 150 pounds; Senior, 190 pounds.

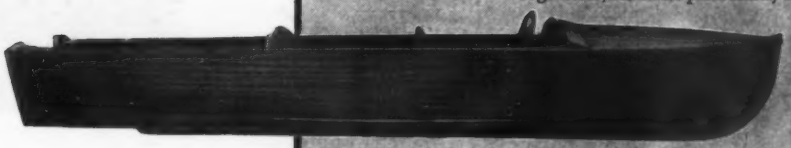
The new COMMODORE

A smart, all mahogany outboard runabout. 16 foot. 60 inch beam. Seats six. Beautifully upholstered. Complete marine equipment—gas tank, auto pulse, Ross Steering, remote control. For B, C, D and E motors. Speed to 35 m.p.h.



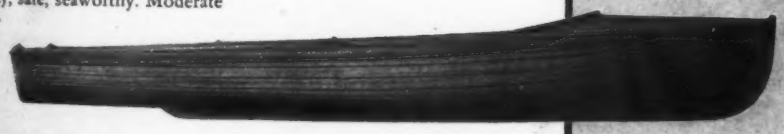
The new « « MERCURY » »

A safe, fast, seaworthy runabout—of convex V-bottom type. 16 foot. 60 inch beam. Equipped with remote control and Ross Steering. Seats five. A graceful, moderate price family boat.



2 KINGFISHER models

Junior length, 14 feet — Senior length, 16 feet. Most popular boats in their class. Mahogany decks. Ideal fishing and family boats; roomy, safe, seaworthy. Moderate price.



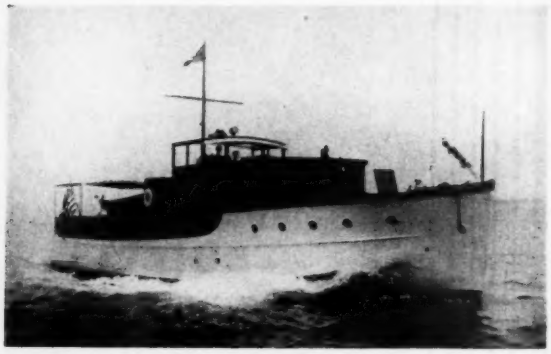
WRITE FOR CATALOG

Completely illustrated. Full specification details proving rigid construction and in-built quality—*Write today.* DEALERS—Valuable territory open.

BOYD-MARTIN BOAT CO.
1070 Lee St. Delphi, Ind.

BOYD-MARTIN *Boats*

YARD AND SHOP



Gadabout II—a 62-foot Sunbeam cruiser built by the Great Lakes Boat Building Corp. She carries a pair of Sterling Petrels with reduction gear

A LINE OF RUGGED DIESELS

The Hill Diesel Engine Company's Exhibit at the show included three of their 5 x 7 pump injection engines:

A six-cylinder marine unit rated at seventy-five h.p. at 1,000 r.p.m. with both air and electric starting systems was shown. This is a popular unit with yachtsmen, many twin and single installations having been made in fine yachts on both coasts. An interesting installation is a pair recently shipped to Port Said, Egypt, for the canal engineer's inspection boat—bringing the total to nineteen Hill Diesels in various services by the Canal Company.

A two cylinder twenty-five horsepower marine unit with electric starter was shown. This size is suitable for auxiliary power in sail craft and the smaller pleasure and work boats.

A beautifully finished alumnium three cylinder generator set which is to be installed in a ninety-three foot yacht as auxiliary to a pair of the Hill Company's six cylinder 6 x 10 propelling engines completed the engine exhibit.

The fifteen k.w. high speed G. E. generator is closely connected by means of silent chain fully housed, making an extremely compact and light weight unit which appeals to yachtsmen demanding complete immunity from gasoline fire hazard plus extreme economy.

The Hill Company's claims for recognition are based on the extreme simplicity and rugged construction of their products, plus their ability to burn fuels as low as twenty degrees Baume without stoppage or fouling of the fuel system.

ALAMEDA PLANS YACHT BASIN

A sum of $300,000 will be spent by the city of Alameda (Cal.) for construction of a yacht harbor and the building of bulkheads in conjunction with the airport now being laid on the island located in upper San Francisco Bay adjacent to Alameda.

Approval of the project was voted by citizens of the city at the regular election held there November 5. Three bulkheads will be erected immediately to create a harbor 2,000 feet in length and 1,000 feet in width. Small craft will be stored within the bulkheads. At the end of the line an old passenger-carrying boat will be scuttled so that the upper deck rests on a level with the breakwater. The craft will then be used as a club house and headquarters for operation of the new basin.

REGAL SOLVES POWER PROBLEM

The problem of the selection of a suitable power plant for the new boat becomes easy of solution when the Regal line of marine engines is investigated. Fifteen engines will be offered the boating public in 1930 and the purchaser makes no mistake when he selects any one of them. His problem is reduced to the simple proposition of selecting the proper horsepower to match his boat.

Not only is Regal power economical, but it is the sort of power from which the owner may reasonably expect years and years of trouble-free operation, with maintenance cost lowered to an irreducible minimum. Performance such as Regal supplies leaves little to be desired in the way of marine engine operation.

Whether the boat be purely a pleasure craft, a plodding commercial vessel or a sturdy fisherman, the job is all the same to a Regal and it delivers its effortless and constant flow of horsepower just the same. Power ratings range from 2 to 75 h.p. and the models are built in 1, 2, 4 and 6 cylinders.

THE SCRIPPS EXHIBIT

The Scripps Motor Company of Detroit, Michigan had a particularly attractive exhibit at the recent Motor Boat Show.

Set in a background of deep blue velvet draperies adorned by silver leaves and tassels in recognition of the Silver Anniversary of the Show there was displayed a total of eight of the famous Scripps Motors typifying the 15 distinct models manufactured by this company. One of the motors, the new model 124, was given a very prominent place in a so-called Shadow Box suspended among the draperies well up on the wall and illuminated in a fashion to give much the effect of bas relief sculpture.

On the floor there was a pair of Scripps twins, the smooth simplicity and striking symmetry of which did not fail to attract the eye. Model 84, a light, high-powered four cylinder motor, developed particularly for 18 to 20-foot speed craft was shown for the first time, as well as the new model 120, a 70 to 100 h.p. six, unusually complete in its equipment and an ideal power plant for the smaller speed cruiser.

All of the Scripps models for 1930 follow very closely the design and construction of last year. In fact such changes as have been made would hardly be noticeable except to the most practised eye. Downdraft carburetion is of course a feature on the larger models, Scripps having first sensed the advantage of this principle of carburetion as applied to marine motors and having pioneered its commercial development. Another interesting development is a very simple and rugged form of flame arrester which takes the place of the ordinary screen on the air intake of the carburetor and so cools the gases expelled by a back-fire that positively no flame can pass back through the carburetor intake.

Scripps engineers have done considerable research this past year in the matter of compression ratios and combustion chamber form and as a result of some interesting discoveries in this direction, even smoother operation and increased power on common fuel is claimed to be a characteristic of all models.

Detroit police use this husky Kermath-powered tug for river patrol work

BAKELITE VARNISH FOR YACHTS

Recent attention has been drawn by the statements of Nathaniel S. Corwin and George B. Gibbons, prominent New York yachtsmen, indicating that the chemical research laboratory is once more proving that there is something new under the sun—in this instance, by an achievement of particular maritime interest. Bakelite marine varnish is made with a phenol resinoid product incorporated in suitable solvents, and is now available in the form of a protective varnish for yachts and motor boats.

Prior to announcement of the new product, tests have been conducted during a period of two years at Coconut Grove, Florida. Here, wooden panels, some coated with the earlier types of marine varnishes, others with the new material, were subjected to alternate immersion in sea water and exposure to sunlight, with the rise and fall of the tide. This was a severe test, but the new varnish is reported to have stuck to its job literally. Heretofore, marine varnish has been made from the resins, oils, and pitches which occur in nature. The novelty of the new material lies in the addition of the phenolic superresins, or resinoids, so-called, which were invented in the chemical research laboratory by Dr. L. H. Baekeland.

The technique of applying the new marine resinoid varnish has been published in convenient form for the casual boatman as well as for the large scale ship builder.

1930 Century Boats

New Speed — New Comfort — New Safety

CYCLONES

10'8" A class $225.00

12'8" B & C class $250.00

14' D & E class $345.00

FAMOUS Century CYCLONE RACING outboard HYDROS have established, in the last two years, most remarkable records wherever raced, 'till every important meet sees a whole flock of these race winners contesting for honors.

Century's skill in grasping the new and better, for its craftsmen, gives you more SPEED, more STRENGTH, more SAFETY in 1930. John L. Hacker, N. A., brings the lines of these wonder boats up to date for the new regulations and gives them more speed even with added weight. And—Boy! How she handles on the turns. To be SATISFIED, you MUST have one of the racing CYCLONE Sisters.

The TRAVELER

17' by 4' 10"—In building the finest quality outboard runabout in the entire field of boatdom, Century has spared neither time, money, nor materials; the fastest and most capable performer of its type. Don't envy your neighbor, pride of ownership is yours when you own the DeLuxe Traveler; designed by John L. Hacker. Completely equipped, value greater than $535.00.

The TRAVELER Jr.

17' by 4' 10"—The same performance abilities of the Traveler Senior have been incorporated into a plain finished boat of real beauty and merit. You will be astounded at what you can buy for $395.00.

ARISTOCRAT

A-19' Inboard with Hacker Drive and the Universal "Blue Jacket"

MERMAID

A-17' Inboard with 22 or 50 H.P. and the Hacker Drive

CENTURY BOAT COMPANY

MANISTEE, MICHIGAN

LOOKING INSIDE THE OUTBOARD ENGINE

(*Continued from page* 200)

engines are in any case so small. Should the trend of outboard motors continue toward larger sizes, however, it is altogether likely that the four-cycle motor will come into high popularity. A large two-cycle motor developing in the neighborhood of 25 horsepower will consume about three gallons of gasoline with which is mixed one gallon of high grade lubricating oil per hour of full power operation. A slightly larger four-cycle motor developing the same power will run on two or two-and-a-half gallons of gasoline and possibly one pint of lubricating oil, for one hour, at about half the cost. In the small sizes the actual difference in fuel and oil cost is so small as to be largely offset by other factors.

THE TWO-STROKE-CYCLE ENGINE

The two-cycle internal combustion engine has reached its highest state of development in the outboard motor. This principle was used in the first outboard motors, and continues to be used because of its simplicity, low cost of manufacture, and dependable features.

In the two-stroke-cycle engine, as the name implies, a charge of mixture of fuel and air is burned, produces pressure on the piston (power), is exhausted, and a new charge taken in, all during two strokes of the piston. Refer to Figures 5 and 6. These show a simple single cylinder two-cycle engine diagrammatically. The crank case is enclosed. The upper end of the cylinder is the high pressure or combustion end—the working cylinder. The crank case constittutes the clearance space of the other end of the cylinder—the pumping end. Both ends are used.

The piston A, in Figure 5, is on upper dead center. The spark occurs in the spark plug firing the compressed mixture between the piston and the end of the cylinder. This creates pressure on the piston which moves downward turning the crank shaft toward the right. When the piston has reached its lowest point, lower dead center, it has passed by two openings in the cylinder wall. The opening *E* is the Exhaust Port, *D* is the By-Pass Port. When the top of the piston reaches the Exhaust Port, the burned and burning gases above it are still under pressure and upon being relieved pass rapidly out through the port. Slightly after the Exhaust Port has been uncovered, the piston begins to open the By-Pass Port on the opposite side. The new fuel mixture which has been compressed in the crank case, then blows into the cylinder through this port. This new charge hits the vertical wall—the Deflector *F*—on top of the piston and is turned upward toward the cylinder head. Thus, as the new charge blows in, it forces the remaining burned-exhaust-gases from the cylinder out through the Exhaust Port.

The cylinder, as in Figure 6, is now newly charged with a combustible mixture of air and gas. The crank shaft continuing to revolve forces the piston upward. First, the By-Pass Port is covered, then the Exhaust Port, then as the piston continues upward the mixture is compressed. And as the piston reaches upper dead center again, the charge is ignited and another cycle is under way. Thus, it will be seen, the cycle has been completed with but two strokes of the piston, one up, one down.

But it is necessary to consider what happens in the other end of the cylinder, the crank case end. Start in the same position as before with the piston on upper dead center, Figure 5. The crank case is full of mixture of gas and air. As the piston moves downward it compresses this mixture in the crank case. And as the piston uncovers the By-Pass Port this compressed mixture flows through the port into the cylinder as has already been explained. When the piston starts upward again it first covers and seals the By-Pass Port; as it continues to move upward it creates a partial vacuum or suction in the crank case. This suction lifts the small and light valve *H* in the mixer or carburetor *L* which opens into the crank case, and draws in air through the valve. As the air flows around the valve, it is saturated with a mixture of gasoline and oil so that the crank case, then, becomes charged with a proper fuel mixture, and enough oil to lubricate the moving parts. When the piston is again on upper dead center the crank case is full and the cycle is completed for this end of the cylinder.

Since the volume of the crank case is large compared with the volume above the piston when it is clear up, the actual compression in the crank case is comparatively low, but is nevertheless quite sufficient to cause the charge to move into the cylinder when the By-Pass Port is uncovered. While the compression in the working cylinder may run from 70 to 100 pounds per square inch, the compression in the crank case is from four to six or eight pounds.

The two-cycle engine above explained is the Two-Port type. There are but two ports cut into the cylinder wall. The control of the charge to the crank case is by means of a separate valve. The one shown is known as an automatic poppet valve. It is automatic in that the suction in the crank case and the flow of the air past it raise it from its seat when taking in a charge, and the pressure in the crank case forces it and holds it closed—with the aid of a small light spring—during compression. Other types of valve are used, such as the rotary gear driven valve which will be more fully explained later.

Figures 7 and 7a are a diagrammatic representation of a twin cylinder opposed Three-Port engine. The cylinders are on opposite sides of the common crank case. Since there are two throws or crank pins on the crank shaft, both pistons work outward, or inward, together. The detail operations of the cycle occur simultaneously in both cylinders—they fire at the same time, exhaust at the same time, etc.

Instead of a valve controlling the intake to the crank case when the pistons create suction by moving outwards, the pistons themselves control it through the opening and closing of the Third-Port *M*. When the pistons are on lower dead center they have uncovered the By-Pass Ports as before and the compressed charge in the crank case blows into the two cylinders at the same time. As the two pistons move outward again, they first cover the By-Pass Ports. As they continue outward, suction is created, as before, in the crank case, but there is now no opening through which the new charge can enter to relieve the suction. As the pistons near the end of the outward travel, however, the lower edges uncover the Third-Port in the cylinder walls *M*. The new charge of gas and air then rushes into the crank case. Thus, the lower edges of the pistons are used as valves on the Third-Ports, controlling the mixture to the crank case, just as the upper edge of the piston is used as a valve on the Exhaust Port and the By-Pass Port.

There is also a variation of the three-port motor known as the Four-Port type—not a truly representative name, however. In this construction the by-pass passage does not run straight down the side of the cylinder into the crank case. Instead, there is a port cut through the side of the piston itself, and two holes or ports through the cylinder wall. This extra port in the piston wall, and the one which matches it in the cylinder wall, do not have any valve function but simply open up in conjunction with the By-Pass Port to permit a short path for the new charge. The construction is shown in Figure 8 with the piston in the lower dead center position and the ports in line to permit the charge to flow from the crank case through the piston wall into the by-pass. Three advantages are claimed for this construction; first, that part of the volume of the by-pass is removed from the crank case thus permitting slightly higher crank case compression; second, that the new charge in passing through the piston wall helps to cool the piston; and third, that the entrance to the by-pass is not restricted as is sometimes the case when it opens directly into the crank case in proximity to a crank shaft cheek or counterweight.

It is thus evident that the two-cycle engine is the acme of simplicity having basically only three moving and wearing parts—the piston, the connecting rod, and the crank shaft. There are no gears, valves, cams, or other parts. It is, in fact, an ideal construction for the small engine such as the outboard motor where continuous full load power is the rule. Lubrication is largely automatic as the requisite amount of oil is simply mixed with the gasoline and enters the crank case and later the cylinder, bathing every moving part in oil. Valve timing, once established in the design and manufacture of the engine, is fixed and constant since the piston acts as the only valve.

The two cycle engine has some disadvantages, too, however. It has been seen that both ends of the cylinder in this type—one end constituting the crank case containing the crank shaft and connecting rod—are used to handle the gases, and that is the reason that the two-cycle engine can complete its cycle in two strokes whereas the other requires four. Since the crank case represents such a large clearance volume, however, it is an inefficient air pump. Theoretically a volume of gas and air mixture equal to the displacement of the piston should be drawn into the crank case and transferred to the combustion end during each cycle, but actually this is not done. There is not enough mixture blown from the crank case into the cylinder to displace all the burned gases which fill the cylinder after combustion, and consequently the mixture that is compressed and burned is quite highly diluted with exhaust gases. This is the large basic fault with the two-stroke-cycle engine, and accounts for its high gas consumption, and many of its other faults.

A brief study will show that if a throttle of any kind is provided to restrict the amount of gas taken into the crank case or the amount transferred from the crank case to the cylinder, this still further limits the volume of gas available to expel the burned gases from the cylinder and even more dilution of the charge results. The two-cycle engine will operate indifferently at less than full power for that reason. Because a throttle is at least

(*Continued on page* 228)

Way Ahead IN THE THREE MAJOR RACING CLASSES

49.47 M.P.H.

Fastest OUTBOARD SPEED Official

49.47—H. G. FERGUSON—49.47—CRANDALL COMET—49.47—CLASS D, DIV. 2—49.47
49.47—CLASS D, DIV. 2—49.47—CRANDALL COMET—49.47—H. G. FERGUSON—49.47

AND

43.97 M.P.H.

Fastest TWIN CYLINDER OUTBOARD SPEED Official

Fastest B OR C CLASS SPEED Official

43.97—BILL LYON—43.97—CRANDALL COMET—43.97—CLASS B, DIV. 1—43.97
43.97—CLASS B, DIV. 1—43.97—CRANDALL COMET—43.97—BILL LYON—43.97

FERGUSON

and yet 43.94 M.P.H. in B-2 made by Charley Holt!
11 American Records and one World's Record set in 1929 by Crandall Comets

CRANDALL BOAT CO.

NEWPORT BEACH, CALIFORNIA PHELPS, WISCONSIN

CHARLEY HOLT AND BILL LYON

MOUNTAINOUS rivers, lakes and streams—with steep grades to climb—would make the need for added power more keenly felt.

In such a contingency, the trend would inevitably be toward Autopulse . . . . for this ever-dependable fuel pump supplies gas direct from tank to carburetor and lets the motor function unhampered . . . . permits the "iron horses" to exert *all* their energies to the business of *force* and *power.*

But, while no *grades* exist, the resistance of rushing water and wavelets offers equivalent obstacles . . . . retarding speed, reducing power, affecting agility.

Regardless of type of craft or motor . . . . whether it be inboard, outboard or cruiser . . . . Autopulse will contribute toward unmatched performance under all conditions.

Outboards so equipped have many hours added to their cruising range, and on inboards it permits the carrying of the auxiliary tank at a safe distance from the motor.

Autopulse is absolutely automatic and requires no attention whatever. Your marine or auto accessory dealer can supply you . . . . economically. Or, send coupon below for FREE BOOKLET containing complete description.

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ELECTRIC FUEL PUMP

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Please send FREE booklet, "Adding HEART To Your Motor." I have an
☐ Outboard Motor ☐ Inboard Motor
(Please Check)
Name_____
Street Address_____
City & State_____

LOOKING INSIDE THE OUTBOARD ENGINE

(*Contniued from page 226*)

partly impractical, this type of engine is controlled in power and speed by retarding the spark, or at least by a combination of partial throttle and retarded spark.

While the lubrication of such an engine is simplicity itself, the oil being mixed with the gasoline, there is great waste of lubricant and some attendant difficulties. In high power engines of the four-cycle type fresh oil is forced to the bearings under pressure and copiously lubricates all moving parts. In the two-cycle engine this is not practical because any oil forced into the crank case through the bearings mixes with the charge and is carried over into the cylinder. The bearings in the two-cycle engine operate under high pressures, however, and must be lubricated. The only satisfactory solution seems to be to provide an excess of oil and allow the waste. One reason such a large excess is required is because the oil, having been diluted by mixing with gasoline does not have the lubricating qualities of fresh oil, even though experiments have shown that a large part of the gasoline has been evaporated from it by the time it comes into contact with the bearings and the cylinder and piston walls.

This excess of oil must, of course, escape through the By-Pass Port into the cylinder. There it is subjected to very high temperatures and pressures. A chemical change takes place—the oil is cracked into lighter oil and free carbon. A great deal of the carbon goes out in the exhaust, but the rest is troublesome, particularly in causing the piston rings to stick in the grooves.

If it were possible in the two-cycle engine to load the cylinder full and to avoid the dilution of the charge, then theoretically this type would develop twice as much power in a given size as the four-cycle type. In large power plant engines working on the two-cycle principle separate large cylinders are sometimes provided to compress and blow the new charge into the working cylinder. This is particularly feasible in large diesel or semi-diesel engines where the pumping cylinders handle pure air only (so also does the the crank case when that is used) and the fuel oil is sprayed under high pressure into the compressed air in the working cylinder.

In smaller two-cycle engines many attempts have been made to improve the Volumetric Efficiency—to fill the cylinder as nearly as possible with a clean undiluted charge. This aim when achieved will, of course, increase the power and somewhat improve the fuel consumption, but it still does not eliminate the other basic faults already cited.

Much has been learned about the best proportions of bore to stroke; the height and shape of the deflector on top of the piston; the best location and type of spark plug; the cooling; and a number of like mechanical details. Since the problem is a basic one, however, most attention has been given to the crank case and the methods of filling and discharging it.

A very early attempt to improve the two-cycle engine without too much complication and mechanism was the stepped-piston design. A pair of cylinders are shown in Figure 9. Inside of the working cylinder *A* is the piston *B* of the usual sort so far as the upper end is concerned. The lower end of the deflector on top of the piston *C* is larger in diameter and works in the cylinder *F*. The crank pins on the crank shaft are opposite each other—not shown—so that when one piston is up the other is down.

The annular space *F* around piston *B* and above piston *C* is filled with a mixture of gas and air—the charge—from a carbureter as the piston moves downward on the Power Stroke. When piston *C* is down in one cylinder, it is up in the other, therefore the charge is compressed above piston *C* in the left hand cylinder and blows into the right hand working cylinder when the piston *B* uncovers the By-Pass Port on that side, as shown by the heavy arrow *H*.

There are ways in which this construction may be used in a single cylinder engine, but it is simplest and most effective when used in paired cylinders so that the pumping action of one side directly serves the working cylinder of the other side.

There are two principle advantages in this type of construction. By making the volume of the pumping cylinder larger than that of the working cylinder, pumping inefficiencies may be offset so that the actual volume of new charge blown into the working cylinder will completely fill the latter.

If this volume is too large, however, some of the new charge may be wasted by blowing out the exhaust. The other advantage is that the crank case compression is not utilized and the lubrication of bearings does not involve the mixture of the oil with the fuel charge. Some oil mixed with the gasoline is still necessary, however, to lubricate the working piston and its cylinder walls.

This stepped-piston construction has not come into general use because of some rather serious difficulties, particularly in

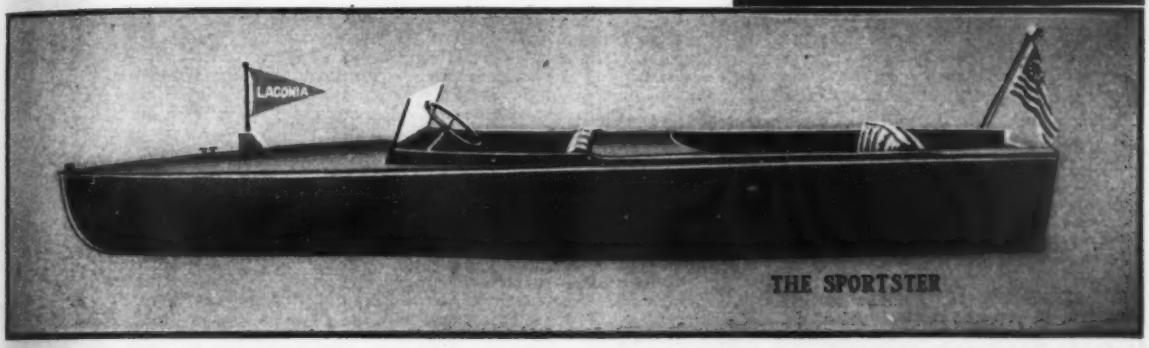
(*Continued on page 230*)

Advertising index will be found on 3rd last page.

ONCE *in a* LIFETIME

WAS $369

NOW $200



THROUGH the liquidation of the Boat Department of the Laconia Car Co., you may now buy a 16′ Standard SportSter, fully equipped, for $200 f.o.b. Laconia, N. H. Regular retail price was $369.

These boats are smart in appearance, are manufactured to the highest standards, and have been subjected to rigid inspection. They are real runabouts that you will be proud to own. They are built to give years of service, and can be used with any outboard motor of Classes B, C, D, and E, developing speeds up to approximately forty miles per hour. They can be driven from either the forward or after cockpit. Cockpits have comfortable upholstered cross seats. Nestled below windshield is motor car type steering wheel.

These boats are equipped with deck hardware, bow lights, stern flagpole and light, windshield, steering wheel and life preserver cushions. To those people of particular discrimination, they have every refinement which contributes to perfect enjoyment of water motoring and pride of ownership.

There are just 170 of these boats for sale, and they will go to the first who clip this coupon and attach their check.

UNEQUIPPED

We have a few of these boats equipped with only windshield and life preserver cushions for $150 f.o.b. Laconia, N. H.

SPECIFICATIONS

	SportSter
Length over all	15′ 11″
Beam over all	52″
Weight complete (without motor)	350 lbs.
Weight, shipping, crated	750 lbs.
Planking and decking	Philippine Wood (Individual planks)
Bottoms	Double planked, with cloth set in white lead between layers for watertightness, painted with anti-fouling bottom paint. Additional stringers besides keel and chines to provide required bottom strength.
Sides	Batten seam construction.
Ribs	Assembled with brass bolts, nuts and washers. Designed for maximum strength.
Fastenings	Copper or brass throughout.
Hardware	White nickel brass.

LACONIA
CAR COMPANY
LACONIA, NEW HAMPSHIRE, U.S.A.

LACONIA CAR COMPANY, Laconia, N. H.

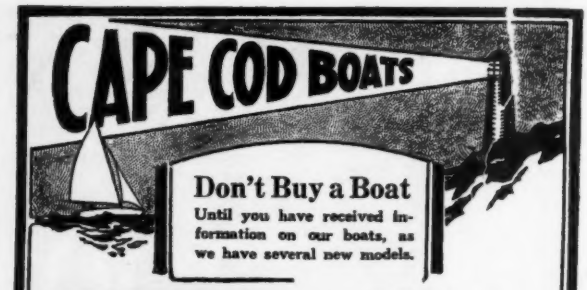
Gentlemen: Enclosed find check for ☐ SportSter $200 ☐ Unequipped 150

Ship to:

*Name*_____

*Address*_____

*City*_____ *State*_____



Don't Buy a Boat

Until you have received information on our boats, as we have several new models.

CAPE COD BABY KNOCKABOUT

This model is brought out to meet the demands of various yacht clubs and individuals, a number of yacht clubs having adopted this boat as a standard racing class. Some clubs have fleet of 30 boats. All Cape Cod boats are standardized built.

ROWBOATS

10, 12, 14 feet long. Of various models. Strong, well-built and safe.

RUNABOUT, LAUNCHES AND DORIES

New 16' Runabout with Van Blerck Jr., 20' Runabout. Niagara motor, 20' Special Dories safest sea-going boat built.

OUTBOARD MOTORBOATS

New sea-going boat for outboard motor; other models for general utility and high speed use.

CAPE COD SHIP BUILDING CORPORATION

Builders of Standardized Boats

Show Room, Main Office, and Works, Wareham, Mass.

Boston Show Room, Rapp-Huckins Co., 138 Beverly St. Boston, Mass.

Branch Office, 18 Tremont St., Boston, Mass.

ONCE AGAIN

we strongly recommend buying boats and motors on the basis of actual performance.

and we repeat

We can help you find the outfit best suited to your needs.

OUTBOARD MOTOR HEADQUARTERS
BRUNO BECKHARD
FLUSHING BRIDGE, FLUSHING, N. Y.

Making Water Sports Safe

Although speedboat racers take many daring chances they never risk their safety—they wear KAPO SPEED-BUOY VESTS. Style 7C. A comfortable windbreaking garment that does not interfere with freedom of movement. For men, women and children. Sizes according to chest measure. Priced from $8 to $18.

Kapo Vests, jackets, belts, pillows, cushions and motor boat pads are filled with Celbasilk—the most buoyant material known. Prices range from $2 to $13. Send for new illustrated catalog. *Look for this trademark*

Kapo Products Co.
151 Second Street
E. Cambridge, Mass.

LOOKING INSIDE THE OUTBOARD ENGINE

(*Continued from page 228*)

high speed engines. The pistons are long, large and heavy and therefore cause high bearing pressures at high speeds. The cylinders must be spaced rather widely apart making greater distance between bearings and causing greater vibration forces. The cylinders themselves are long and heavy. But perhaps the greatest difficulty is in accurately machining the two diameters of the cylinder and the two diameters of the piston. Friction losses are increased by the greater rubbing surface between the pistons and cylinders and by the extra piston rings on the large-diameter pistons.

If an outboard motor were constructed with stepped-pistons it would be unduly heavy and cumbersome, difficult to manufacture, costly, low in power because of slower speed. Nor would it give any marked advantages in fuel consumption or slow speed operation.

There is no question but that the pumping efficiency of the crank case can be improved and larger volumes transferred to the working cylinder by decreasing the clearance volume—the volume in the crank case, which includes the inside of the piston, when the piston is clear down and the mixture compressed. This automatically increases the pressure in the crank case, however, and recent experiments seem to indicate that while the volume should be large, the pressures can be too high.

Increasing the pumping efficiency of the crank case by decreasing its clearance volume may be accomplished, sometimes at considerable expense and with the addition of considerable weight, by using a built-up crank shaft or attaching filler blocks and counter-weights, by holding all the clearances between the crank case walls and the rotating parts to close limits, by blocking inside the piston, and by the use of roller bearings on the crank pins (in the connecting rods) to make the bearings shorter and smaller in diameter.

Some improvement has been accomplished in the ways mentioned above, but probably greater attention has been paid to giving the new charge easier access to the crank case by utilizing two carbureters, rotary valves, and other devices in combination with crank case refinement.

(*To be continued*)

A NEW COLLEGIATE COMPETITION

(*Continued from page 208*)

mittee and it is probable that the list of competitors will number more than sixty before the closing date, May first. Eighteen institutions are represented by these entries. Because of the growth of the Regatta the site of the races has been taken from Lake Moraine and will probably be laid in Cazenovia Lake, which is larger and offers greater facility for a sanctioned race. Detailed plans for the Regatta are far from complete at this writing and it will not be until April first that final announcement will be made.

However, the 1930 rules adopted by the A.P.B.A., the N.O.A. and the Mississippi Valley Association will be strictly enforced. The standings of all the drivers must be amateur according to the rules, and each will be classed in Divisions I and II. Only Class B, C, D, and E boats will be entered and the course will be the new official two and a half mile oval track. Further mechanical details are being rapidly worked out by the Regatta Committee and will be announced as soon as possible.

Success of the venture is certain for, with the backing of the entire motor boating world, especially of the American Power Boat Association and the National Outboard Association, the Regatta Committee of the Colgate Outing Club has met with great reception from all directions.

GIBB WITH PENN YAN

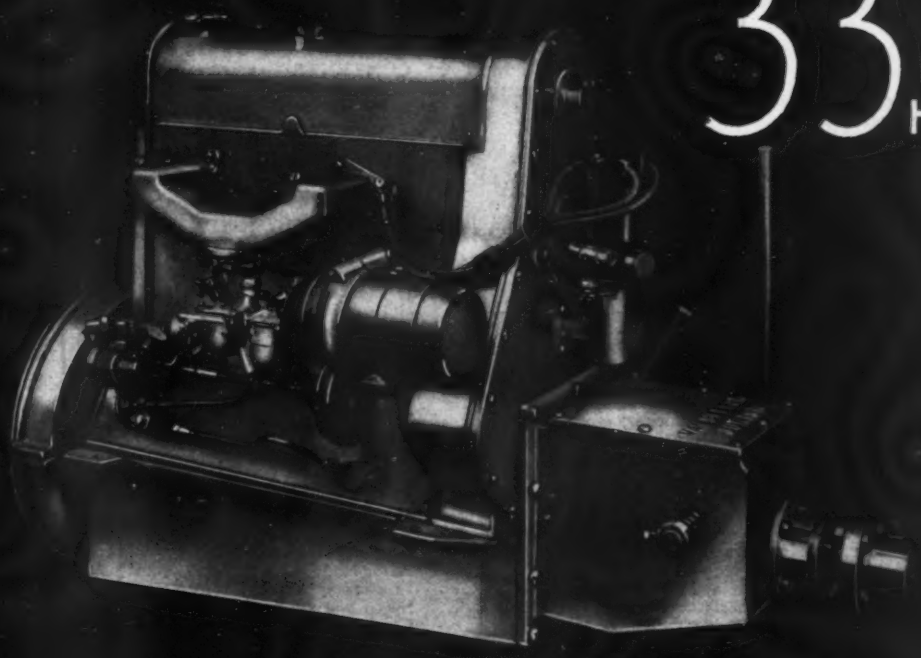
Friends of William E. Gibb, who are numbered by the hundreds in the motorboat industry, will be pleased to hear that he is now associated with the Penn Yan Boat Company, Penn Yan, N. Y., as sales manager of that well-known manufacturer of outboard runabouts and dinghies, canoes and high-speed racing craft.

Rapid expansion of the Penn Yan Boat Company with tremendously increased production schedules for 1930 and the consequent expansion of the sales program, has led to the appointment of Mr. Gibb, whose experience in the industry extends over a period of great many years.

Advertising index will be found on 3rd last page.

THE VAN BLERCK JUNIOR

33 H.P.



The INBOARD motor that has modernized the small motor boat. For 1930, increased horse power. Thirty-three horse power at 3000 RPM. New features, increased bore, piston displacement 90 cubic inches, 2⅞ x 3½. • Adopted by the leading quality small boat builders in the United States and Canada. • Price complete, $390.00, which includes reverse gear, generator and electric starter. • Weight complete, 165 lbs., including generator, starter and reverse gear. • Not a converted automobile or motorcycle engine, VAN BLERCK engineered and VAN BLERCK built throughout. Write for latest catolog, showing how to convert your last year's outboard boat to a late model inboard.

VAN BLERCK MOTORS

RED BANK · NEW JERSEY

Every Motor Boatman and Sailor Needs This Book

THE YACHTSMAN'S ANNUAL GUIDE

The Only Yachting Handbook of Useful Boating Information

No Boat or Nautical Library Complete Without it
Founded 1877
Over 500 Pages

Published by Yachtsmen for Yachtsmen
Published January and July of Each Year
Valuable Alike for Novice or Expert

Profusely Illustrated

The Reference Book Which Combines the Important Data to Be Found in All Government Publications of Interest to Motor Boatmen and Yachtsmen Into One Volume

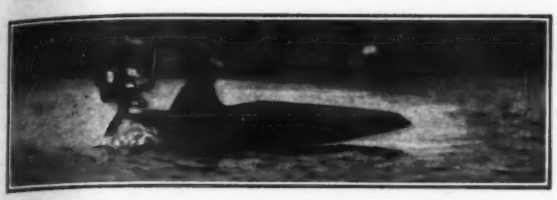
PARTIAL LIST OF CONTENTS

*Sixty complete motor boatmen's charts covering the entire Atlantic Coast, Great Lakes, important harbors and rivers
*Tide Tables showing time of high and low waters, range of tides, etc., at more than 1,000 different locations
*List of important lights on Atlantic Coast, their characteristics, fog signals, etc.
*Current tables showing time of slack water, strength of current, time of current changes, etc., at all important points
*Latitude and longitude tables, giving the locations of over 1,000 points, aids to navigation, etc.
*List of ports where numbers of motor boats are assigned
*New York—Florida, motor boat inside route
A complete description of the course for motor boats to follow, where to get supplies, anchor, etc.
*Where to Cruise—
A chapter giving numerous suggestions and hints on cruising, description of the best cruising waters in the East and on the Great Lakes
*Yachting signal code
*List of all yacht clubs
*List of marine engines manufactured
*Trent Canal
*Notes about Government Coast and Geodetic Charts
*Where to buy Government charts
*Cruising to Florida in twenty days
*Racing Summary
*How to form a yacht club
*Duties of yacht club officers and members
Tables of times of high and low tides
*Tables showing time of sunrise and sunset
*Details of motor boat routes, New York to Albany, Albany to Buffalo, Albany to Thousand Islands, Albany to the St. Lawrence River and Montreal, New York to Philadelphia, Buffalo to Detroit, Miami, Fla., to New Orleans, etc., etc.
*Motor Boatmen's Charts of Lake Ontario, Lake Erie, Lake Huron, Lake Michigan, etc.
*Numbering Law—How to obtain numbers for your boat
Index to principal harbors which are described
Tide commutation table
Anchorage rules—Port of Boston
Port of New York—Anchorage rules
Rates of Pilotage—New York
Distances—Boston to New York
Lights—New York to Boston
Distance and Bearings—New York to Maine
Complete sailing directions (79 pages), entire Atlantic Coast, Maine to Gulf of Mexico. Detailed information on coastwise navigation, as well as complete instructions for getting into all harbors, bays, sounds, rivers, etc. Compass directions, distances, descriptions and locations of shoals, rocks and other dangers to navigation. The waters described in detail include Atlantic Coast, Coast of Maine and all harbors and rivers. New Hampshire, Portsmouth Harbor, Massachusetts and all of its principal harbors; Massachusetts Bay, North, South and West shores Cape Cod Canal, Cape Cod to New York, Buzzards and Narragansett Bays and Long Island Sound, including motor boat and yacht harbors, anchorages and tributary rivers. East River to New York City, South Shore of Long Island, New York Bay and Harbor, Coast of New Jersey, Hudson River, Chesapeake Bay, Delaware River and Bay, Hampton Roads and all tributary waters, Potomac River, Inside Route—New York to Florida.
Water Routes, New York to Chicago and Duluth, including New York State Canals, sailing directions on the Great Lakes
Canadian Canals, sailing directions, distances and detailed information
Illustrations and descriptions of various rigs of sailing vessels, spars, sails, rigging, etc.
Illustrations and description of seizings, hitches, bends, splices, etc.
Nautical dictionary, defining and describing over 1,000 ship and boat names and terms
Signals, semaphores, codes, weather and storm signals, wig-wag
The compass and buoys
Useful information on motor boats
Help in case of accidents
Definition of astronomical terms
Buoyage system
What to do in a storm, use of oil
To prevent collisions
Boat service, keeping a log
Barometer, weather signs, signal stations, etc.
Life-saving signals, information about sails, etc.
Speed and knot table
Compass points and degrees
Various tables useful to motor boatmen
A. P. B. A. Allowance tables
Hints on motor boat handling
Ignition and battery information
Locating and what to do in case of engine trouble
Hints on installation and operation of motors
Government regulations and equipment required to be carried on board motor boats
Yacht Routine
Flags and how flown
The International Code of Signals
Sailing directions and entire set of courses from Nova Scotia to Florida (51 pages)
Marks and symbols used in charts
Rules of the Road at Sea
Laws relating to yachts and motor boats
Districts of the U. S. Steamship Inspection Service
*To Find Time of Slack Water at any point
*Buoys; what they mean and how to use them
*Tidal Current of Light Vessels
*List of ports where numbers for motor boats are assigned
*Notes about government coast and geodetic charts
*New York State canals and navigation regulations
*Sailing directions on the Great Lakes
*Signals for the Opening of draw-bridges on Great Lakes
*Yacht Club Constitutions and By-Laws
*Distances on the Mississippi River
*Important Motor Boat Courses
*Primary and secondary sea coast lights, their characteristics, fog signals, etc.
*Duties of regatta committees
*Navigational aids and the use of charts
*Distances between points on Great Lakes
*The Yachtsman's log sheets
*The America Cup races

*Indicates new feature.

The Yachtsman's Guide will be sent postpaid upon receipt of price $1.50
The Yachtsman's Guide Flag Supplement, $1.00, Both for $2.00

MoToR Boating, FIFTY SEVENTH ST. AT EIGHTH AVE., New York, N. Y.



What! ONLY $55.50 *for this* SPEEDY CRAFT?

You save 2/3rds the cost of your boat by the Brooks plan. We send you all parts cut and numbered. You assemble them from easily followed, simple instructions. Lots of fun. No chance of error. Thousands of amateurs have built their own Brooks boats.

The "Champion" shown above is a beautiful trim little outboard speedster, 10½ ft. long, 44¾ inch beam. Very steady, follows a straight course, banks perfectly. Skillfully designed for amazing speed. She has hit 40 miles an hour on a straightaway. Complete knocked-down parts only $55.50. Construction surprisingly simple. You can easily put her together.

The speedster illustrated is only one of 55 different Brooks boats. Send 10c for complete catalog showing details of all 55 models—cruisers, runabouts, outboard speedsters, sailboats, most any craft you might want. Write today!

BROOKS BOAT COMPANY, INC.

Dept. C3 Saginaw West Side Michigan

You can get INCREASED POWER *from a sluggish engine*

by installing new ignition wire and Rajah Terminals in seven out of ten engines.

Exhaustive tests by engineering laboratories and engine owners have proved this statement.

Thrust Clip

Your two hands are the only tools you need to install RAJAH Terminals.

For best results, at little cost, specify RAJAH.

Order today from your dealer or send direct to us.

The RAJAH Company

Bloomfield, N. J

Demand More Than Doubled

Such is the Sensational Popularity of

BALUBRICOTE

THE BOTTOM COAT for FASTER BOATS

There's proof that BALUBRICOTE is making good with thousands! A fact that should appeal to you as a power boat owner keen on developing faster speed; and to you dealers who want to develop a greater volume of quick sales.

BALUBRICOTE sells at $2.50 per Quart

BAHL CHEMICAL CO., 194 Elm St., Fall River, Mass.

Leaders in Design ***Boats: $79 to $198***

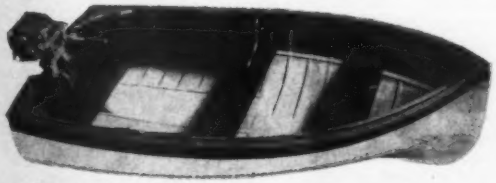
Ashbridge Flyers . . . . . .

Write For Full Descriptive Literature

Nine Official Records with K.D. Hulls without factory or subsidized drivers. First semi-Stepless Non-tripping Racers—banks on turns. Five Models—light and sanctioned. All genuine Ashbridge Flyers have name stamped on sterns.

ASHBRIDGE BOAT FACTORY

Wilmington, Calif.



AN EIGHT FOOT TENDER that is ALL BOAT!

HERE is a LYMAN of particular interest to cruiser owners who want a small, usable tender. The eight footer is always watertight, and being of clinker construction is, of course, strong, light and serviceable. Its liberal beam of forty-nine inches, its wide transom and full bearing upon the water provide stability and capacity impossible to achieve with the old-style dinghy. Send for catalog. Models, 8 to 17 feet.

Speed Tenders ▲ Sea Skiffs ▲ Runabouts

LYMAN BOAT WORKS

Foot of First St., Sandusky, Ohio

STEVENS Hydroplane Racer and Fast Family Runabout New 1930 Models

Safe, seaworthy and roomy, the new family runabout, all mahogany, built by Down-East Yankee experts is within the price range of all. Stevens Boats are the fastest boats. Write for free catalog and price list.

Famous Red Streak Family Boats

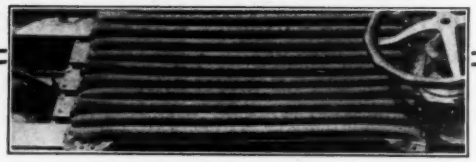
Row Boats—Fishing Boats—Speed Boats

STEVENS TANK & TOWER CO.

9 CENTER STREET AUBURN, MAINE

***DEALERS: Ask about new profitable sales plan.**

New! Airubber Better PAD and FLOAT



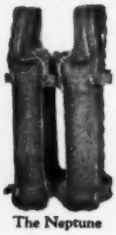
FOR your small racer or speed boat, get a new improved Airubber Floor Pad and Float. Far best for all around satisfaction. Multiple air chambers to absorb jump shock—more comfort. Always dry, does not watersoak or pack down. Extremely light—saves weight. Tied in by brass grommets, in corners, buoys the boat if swamped or upset.

On larger boats, luxurious deck cushion or bunk mattress. Excellent swimming float or life raft.

Trade Mark

No. 511, inside-rubberized strong, durable khaki jean. Pressure molded, rubber-reinforced joints, no hand cementing- New fast valve of brass, nickeled, with interchangeable caps for inflating any way. Size 20" x 36". Weight only 3½ lbs. Price $9.00.

Many other sizes; please write for prices.



The Neptune

Neptune Life Preserver

Lightest, most comfortable, the Airubber Neptune Life Preserver excels for sport. Conveniently worn deflated as a vest. Valves close to mouth—2 or 3 blows inflate each separate pair of air chambers. Official equipment on all U. S. Navy seaplanes. Weight 17 oz. Price $5.00.

Airubber equipment is sold by all best outfitters. If not on display, please write to us. New folders and price list FREE on request.

Airubber DEPARTMENT **New York Rubber Corporation**
Box 65 Beacon, N. Y.

WATER-PROOF *POWER!*

EVEREADY Hot Shots defy rain, waves and hard knocks. In 6, 7½ and 9 volt sizes. Sold in every port.

NATIONAL CARBON COMPANY, INC.
New York UCC San Francisco
Unit of Union Carbide and Carbon Corporation

A DINGHY THAT STAYS WATER-TIGHT!

THIS "Old Town Dinghy" is made water-tight, and stays that way! Covered with heavy, non-leak canvas. No seams to open up in the sun. Exposure just can't harm it! Light but sturdy, a well-built, rugged boat. Stows snugly or tows well. Built by "Old Town"—a respected name wherever there's water! The stern is extra-strong and shaped for an outboard motor.

Free catalog shows many craft. Canvas-covered outboard boats; big, fast, seaworthy, all-wood, family boats; speedy step-planes; rowboats; and all canoe types. Write today. Old Town Canoe Co. 183 Middle Street, Old Town, Maine.

"Old Town Boats"

1929 ACTIVITIES OF THE N. O. A.

(*Continued from page 212*)

the Athletic Department.

The association was given exposition space gratis by the management of the Outdoor Life Show in Chicago for the purpose of interesting persons in water motoring and the organization in general.

However, 1930 will see an N.O.A booth at the National Boat Show, New York; Sportsmen's Show, in Chicago, and one or two others now under consideration.

Among the several services rendered the members was a special arrangement with the several marine publications to grant reduced subscription rates to all members of the organization.

Although racing is not a primary function of the organization, and we are not therefore invested with the power of making or changing rules adopted by the two major racing bodies (A.P.B.A. and M.V.P.B.A.), we are, however, interested in the promotion of regattas as a means of increasing the interest in water motoring and co-operating with the existing boating organizations conducting such events. In view of the above organization's interest, representation on the Racing Commission has been provided.

The present 1930 racing rules have met with some dissatisfaction in various parts of the country, which was to be expected, as no rules made in any sport meet with the hearty approval of all concerned. A few regattas, under the new rules, will do much to clarify the situation and prove the soundness of the action taken by the commission in keeping commercialism out of the sport.

In accordance with the plans suggested by the Racing Commission for elimination races to select a national champion in the respective motor classes, division regattas were held in the East at Boston, Seattle and California in the West, and Chicago in the Central Division.

Sixty-two drivers from the Central Division participated in the Chicago event, held at Navy Pier, and witnessed by 150,000 spectators, the winners of the first place in the several divisions having their expenses paid to the National Championship Regatta at Peoria.

Commodore Eugene F. McDonald deeded to the national organization a handsome gold and bronze trophy designed by the well-known sculptor, McClelland Barclay, and valued at $10,000. This trophy is for perpetual competition and emblematic of the championship of the Central Division.

A special race for this trophy was run in connection with the Central Championships and won by Frank S. Rover of Chicago.

The first National Outboard Championship of the organization was held on October 12 and 13 at Peoria, Illinois, the expenses of which were borne by the national body as previously referred to in the earlier part of this report. Over 150 of the fastest drivers took part and the entry list was the largest of any previous regatta on record.

Since the taking over of the Publicity Department on October 1 by Mr. Mulroy, we are pleased to report the association has received 50,131 lines of publicity during the months of October, November and December. This is equal to 386 columns or 36 full pages of publicity matter, the above lineage pertaining to newspaper publicity only, and based on stories emanating from the association office.

During the past two months a considerable amount of time was spent in the preparation and gathering of materials for the Association's Year Book, and which is part of the 1930 publicity program.

Among the first things to be done by the organization in an endeavor to keep the members informed as to the activities of the organization, was the issuance of a weekly mimeographed bulletin to a list of approximately 500 club secretaries and newspapers. This circulation has been steadily increased until it now reaches all members direct, boating editors, hull and motor manufacturers' dealers and has risen from a mimeographed publication to a four-page printed bulletin at a very slight increase in cost.

With the December issue the form of the Bulletin was again improved and a new masthead was adopted which we believe more attractive than the old. It is our intention to publish the Bulletin under the name of "The Ark" approximately nineteen times a year—monthly during the winter months and semi-monthly during the active outboard season.

We aim to include in our columns as many personals about our clubs and members as possible so that the members will feel the publication is an intimate one and thereby materially assist and be of great value to the association in carrying its propaganda to the members.

(*Continued on page 235*)

Advertising index will be found on 3rd last page.

We Specialize in All Types of Aquaplanes

AQUAPLANES
Scientifically designed, beautifully balanced, for towing—

SKIBOARDS
(Patents Pending)
The outboard-motor-propelled aquaplane—

AKWA-SKEES
(Patented Oct. 17, 1925)
The sporty self-balancing double aquaplanes—

SURF-BOARDS
Standard type and genuine Waikiki Model—

DOLPH
A game played on Akwa-Skees, Skiboards and Aquaplanes

Interesting Proposition for Outboard Boat and Sporting Goods Dealers

Speed Model Akwa-Skees

Write for details and discounts.

SKIBOARD CORPORATION
72 HUBBARD STREET BROOKLYN, N. Y.

National Distributors of Water Sports Equipment

Booth 137 Motor Boat Show

Skiboards make thrilling races.

41 Straight Wins!

STANNUS PROPELLER CO.
—"the 41 straight races won with my Ludington Lightning during the past summer were won with a Stannus Propeller . . . I used the same wheel all summer."
—EARL GRESH

Dealers! Write for our new price list just off the press, giving sizes and styles! Your customers will be pleased with this wonderful propeller—this folder will help you select proper sizes for their boats. Write for it today.

PROPELLER STANNUS FOR SPEED CORPORATION

4089 BEAUFAIT AVENUE
DETROIT : : MICHIGAN

1929 ACTIVITIES OF THE N. O. A.

(*Continued from page* 234)

During the past year the suggestion was made that the organization publish a year book or manual which would contain interesting data on the organization and other material of interest to the outboard owner.

The year book which has just been completed contains the official outboard racing rules, American outboard records, suggestions for conducting a regatta, federal marine laws as they pertain to outboards, speed tables, information of interest to campers, and those interested in water cruising, a resume of the National Outboard Championship Regatta, constitution and by-laws, list of officers, affiliated clubs, and a personal message to the membership.

As a means of stimulating interest in the insurance protection offered to the users of outboard motors, a special folder, in attractive colors, has been prepared for general distribution. The folder includes a brief explanation of the protection offered Association members under these special rates.

The Association has been working on plans to increase the number of special trophies to be awarded by the national organization. Three or four prominent men interested in boating activities have been approached on the subject and definite assurance from two has already been secured.

As a means of increasing interest in outboard activities among the boating editors of the several newspapers, a constant appeal for additional space in their columns has been kept up by means of personal communications and news releases with the result that we have assurance of considerable space being given this activity during 1930.

Contact has been established with several Congressmen interested in inland waterways, and we have secured their pledge to keep the interests of the small boat owner in mind when planning new legislation.

Congressman Hull and Newton of Illinois and Ashley of Kentucky have offered to address the radio audience in the interests of outboard motoring.

The Publicity Department is cooperating with the New Orleans Outboard Club in their plans for a New Orleans to St. Louis outboard race.

The Sea Scout organizations are being interested in a Sea Scout cruise from Chicago to a location to be determined at a later date.

Several stories have been sent out by the Publicity Department which has been working in close cooperation with College Humor magazine in their efforts to establish college regattas. Over 9,000 lines of publicity on the above items have been released to date.

Through close co-operation of the motor manufacturers several interesting reels of regatta events have been loaned to the organization for use by clubs and other organizations.

It is the plan of the organization to prepare a special N.O.A. film for use of clubs and other associations and which will relate to the organization's activities in general.

The coming year will see a completion of the Sectional and Divisional organization in the several states and some additional travel may be required to accomplish this purpose.

An extensive publicity program has been set forth, a part of which is already in operation. New stories on regattas, noise and speed problems, legislation, marine traffic rules, outboard ethics, housing and docking facilities, insurance, pollution and drift problems, water tours and cruises, will be released from time to time, and special effort placed on regatta club publicity in the form of canned campaigns for local and surrounding newspapers.

Particular attention is called to the treatment of newsreel men at the major regattas. It has been brought to our attention by several representatives of these companies that the treatment accorded them by various local race officials has not been satisfactory; in one instance. in particular, only 500 feet of a very important regatta were released by one of the seven newsreel organizations present.

That the association is looked upon by persons interested in water motoring as a real source of information may be gathered from the thousand or more persons who have visited the office in quest of insurance, regatta and general information on the association and its activities.

The past year's experience and completion of all records will do much to facilitate the handling of details in connection with the various activities during the coming year.

On the whole, the organization is to be commended on its general success; few organizations can point to such a rapid rise in membership and amount of activities for the first year of operation.

All indications point to even greater strides being made in 1930.

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The best that skill and experience can produce—at real money-saving prices. Prompt shipment from factory to you.

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Thompson's famous Hi-Speed Step Planes. Plane quickly, ride level and smooth and take sharp turns with safety. Will not "trip" when riding the wake of other boats.

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Eight new speedy Models — Strong, comfortable and safe. For any outboard motor. Exceptionally seaworthy. Prices, $60 and up.

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Square Stern Rowboats—Made both smooth sides and lap strake construction. Steady, seaworthy and easy to row.
Prices, $48 and up.

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With or without engine. Strictly up-to-date 20 ft. models. Fast, handsome 6-passenger craft at money-saving prices.

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THE

RAMSEYBOUT

IS THE REAL

FLORIDA PLAY BOAT

when powered with a
Van Blerck, Jr. Inboard Motor
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THE

1930 HOOH RACERS

are built for the NEW OUTBOARD MOTORS
Weights Conform to N. O. A. Rules

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SAIL BOATS, DINGHYS, OUTBOARDS, SKIFFS, ETC.

We are builders of a complete line of small boats. Write for catalog. You will find what you want at the right price.

BALTZER BOAT COMPANY, INC.

MEDFORD, MASS.

NATIONAL OUTBOARD RACE DRIVERS' ASSOCIATION

(*Continued from page* 214)

the most money and the best machine shop will dominate. Motors should be limited only by bore and stroke and number of cylinders which should be same as stock model of motor used.

19. What is your attitude towards the M. V. P. B. A.? O. K. except agreement on racing rules.

20. What is your attitude towards the A. P. B. A.? O. K. except agreement on racing rules.

21. What is your attitude towards the N. O. A.? O. K. except agreement on racing rules.

22. Do you favor affiliation with any of these and if so which one?

23. Under what conditions would you favor affiliation if any? Drivers should affiliate individually as they choose, but not as a body, provided we get representation.

24. Do you favor State or Sectional Championship races to decide who shall enter the final National Championship Races? Sectional races are desired, but any eligible driver who has placed 1st, 2nd or 3rd at any Sanctioned Race during the year should be eligible for National Championship Race.

25. Do you favor qualifying rounds at the National Championship Races such as is done at the Indianapolis Auto Races? Yes. It will eliminate those who are too slow to be classed as championship possibilities; boats too slow are dangerous to other drivers.

26. Do you favor cash, cups, medals, merchandise or what for prizes at the National Championship Final Races? Small cash prizes distributed to many, rather than large cash prizes to a few, in Div. II and III, but major prizes in Div. I, Div. II and Div. III should be medals or cups. Small cash prizes to many will help pay expenses and will attract larger entries. Since honor of winning at National Championship is greater than cash involved, trophies should be permanent ones.

27. Shall we require affidavits of ownership of boats and motors? Yes, same as 1930 rules.

28. Do you favor holding any free-for-all races? Yes, but not at Sectional or National races.

29. Shall motors be allowed to race out of class (B with C, etc.)? Yes, but not at Sectional or National Races.

30. Should they race out of class at the National Championships? No.

31. What should define a Div. I driver? One who has had less (or not more than) one season's racing experience. (Season classified as Jan. 1st to Dec. 31st of each year). One who races a strictly stock motor and boat within the limitations laid down by National Racing Commission in 1930 Racing Rules.

32. What should define a Div. II driver? One who has had more than one season's racing experience (Jan. 1st to Dec. 31 of each year) one who races a strictly stock motor and boat within the limitations laid down by the National Racing Comm. in the 1930 Racing Rules, with the exception that all Div. II drivers should be allowed to race for cash prizes.

33. What should define a Div. II driver? As defined in 1930 Racing Rules laid down by National Racing Commission with the exception that motors should be limited by bore and stroke, which should be the same as the stock model of the motor used and the same number of cylinders, but no supercharger allowed.

34. What restrictions should surround the making of new records? Same as 1930 Racing Rules, with a suggestion that some means of offsetting natural advantages of certain territories be found to make the making of records equable to all.

(*Continued on page* 237)

Every Boat and Canoe is the Climax of Thirty Years Experience

Straight Lines Emphasized

Outboards, $157.00 Up — Rowboats, $50.00 Up
Canoes, $64.00 Up

For Beauty, Sturdiness, Durability, Comfort and Satisfaction Always Demand a Skowhegan. All Products Guaranteed.

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Advertising index will be found on 3rd last page.

NATIONAL OUTBOARD RACE DRIVERS' ASSOCIATION

(*Continued from page 236*)

35. How can we encourage the amateur more? By strict adherence to the rules, providing and enforcing penalties suitable to the offence. By encouraging him in all ways, and by example showing him the elements of true sportsmanship.

36. What starting method do you prefer, race horse, clock or pole boat? Pole boat for all save National or Sectional Championship Races which should use clock start. Clock should be placed in a manner visible to drivers and spectators.

37. Should races be decided on the point system or elapsed time? Point system. Explanatory announcement or bulletins handed to all spectators at all sanctioned races, so that the public will understand what it is all about.

38. Should it be compulsory for promoters of races to have the following: (a) Medical assistance on the grounds? Yes. (b) At least two patrol boats? Yes. (c) Judges at each end? Yes. (d) Let drivers vote when weather conditions appear dangerous? Yes. (e) To post prizes in advance? No. (f) Furnish outboard racing boat for pole boat? Yes. (g) Make arrangements for gas and oil on grounds (not free)? Yes. (h) Guarantee no increase in price of meals, hotel rates, etc.? No. (i) Hire helpers to load and unload? No.

39. Shall it be a positive rule that any boat crossing the starting line ahead of the pole boat shall be automatically disqualified? Yes and strictly enforced. Persistent violation at sanctioned races should be grounds for officials to bar driver at fault.

40. Do you favor publishing a drivers' bulletin, and how often? Yes, monthly.

41. Do you favor holding the N. O. R. D. A. annual meeting during the final National Championship races? Yes.

42. Do you favor creation of a board of Arbitration, composed of one member from each party concerned, and an equal number of disinterested neutral parties to settle disputes? No, it is not our job. See Question. 13.

43. Do you favor making it a compulsory rule for the officials at any race to hold an immediate hearing when a written protest is filed, signed by three or more contestants? Yes.

44. Do you favor a fine, or expulsion from membership, or both, for any N. O. R. D. A. member who violates the Code of Ethics? Fine of $50 for first offense, expulsion for season on second offense.

45. Sketch your idea what your official N. O. R. D. A. emblem should be: Checkered flag with N. O. R. D. A. inscribed on a propeller superimposed.

DELAWARE NOTES

Date for the Philadelphia Outboard Regatta, and its classic feature race for the Sir Thomas Lipton $6,000 trophy, has been definitely set, Commodore William Freitag announced to the Delaware River Yachtsmen's League at its January meeting.

The regatta will be held on the Schuylkill River as a two-day event, Friday and Saturday, August 8 and 9.

The Anchor Yacht Club of Bristol has applied for sanction of the A. P. B. A. for a two-day regatta, August 16 and 17. Championship canoe events of the American Canoe Association will be held the first day, followed by outboard and motorboat races the second day.

A vigorous election full of campaigning marked the choice of Fred Schultz as president of the Trenton Yacht Club at its annual meeting early in January. Other officers elected were Ray F. Kelley, commodore; Edward D. Danser, vice president; J. B. Woolsten, financial secretary, and Joseph A. Hart, treasurer.

Frederick von Nieda, secretary of the Delaware River Yachtsmen's League, was re-elected president of the Farragut Sportsmen's Association of Camden, N. J., at the annual meeting December 26. Other officers elected were Joseph Campbell, commodore; vice commodore, Fred Reed; rear commodore, Charles Erickson; fleet captain, William Lynn; financial secretary, Walter Schellinger, ad secretary, William Lynn.

C. L. Naylor is the new commodore of the Riverside Yacht Club, elected December 26, at an enthusiastic meeting. Other officers are vice commodore, Alex T. Craig; rear commodore, George Wright; treasurer, Frank Russell, and secretary, Ed. McF. Jordan.

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containing valuable information on motor boating in general, and describing the famous HOOTON boats in particular, is yours for the asking. In it you will find a balanced viewpoint regarding various types of hulls and their uses. If you are going to buy a boat someday—no matter when—you should first read this concise and well illustrated pocket booklet. Write for it today. There is no obligation whatever.

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COMBINATION POST LIGHT AND FLAG POLE SOCKET

For Class I and Outboard Boats
The sturdy one-piece construction of this light makes it ideal as a towing post. Made in one-piece casting; brass or aluminum highly polished.

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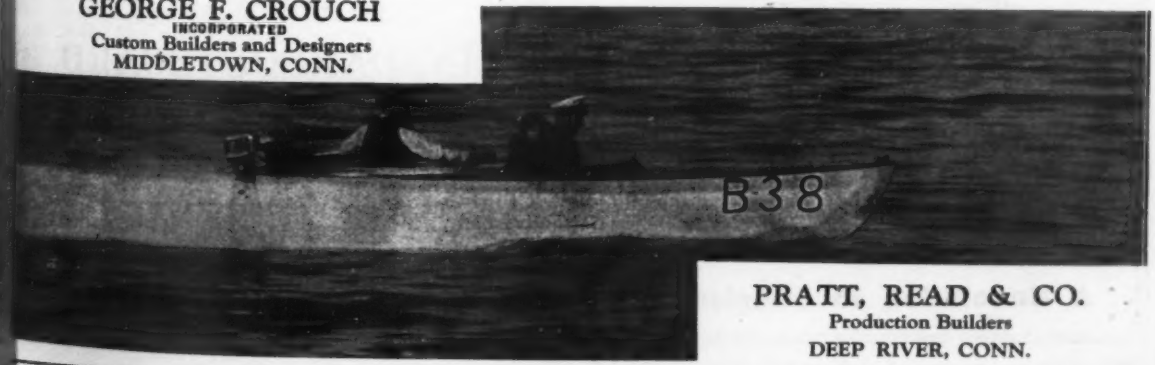

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Production Builders
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OUTBOARD NOTES

JACKSON TO REFEREE AT ALAMITOS

Commander Harry A. Jackson of the United States Power Squadrons and Chief Navigating Officer of the famous cruiser Kemah II, left New York Feb. 27 on the S. S. President Garfield for Los Angeles. He will arrive in Los Angeles March 16, just in time to referee the Southern California Spring Outboard Regatta, to be held at Alamitos Bay, Long Beach, Calif.

The city council of Long Beach allows outboard motors to race there without mufflers, which is the principal reason Alamitos Bay has been picked for this regatta. It was originally planned to hold it at Tia Juana (pronounced Tea Wana), but owing to the Commander's prejudice to certain customs in the above mentioned place and the liberality of the city council of Long Beach the place was changed at his request.

Hueneme (pronounced Yneema) was also considered, but owing to the fact that many records will no doubt be broken, as they usually are at California regattas, it was considered best not to hold the regatta there because the eastern boys might not be able to pronounce the name.

Following is an extract from the Commander's letter which we thought might be of interest to the Division III Drinkers, and also leads us to believe that the commission and the Rules Committee should consider a change in the rules immediately, as it is very evident that when the 1930 rules were made a certain class was overlooked entirely.

"I resent, however, your classing my drinking ability as Division III. I am no outboard drinker, for, like their namesakes, they go like hell for a while and then stop for a long, long time. My drinking is like the motor boating game I follow. Long Distance Cruisers. Steady, continued and never stopping. That's the better game. It preserves and keeps you for centuries, as is perfectly shown in my own and your case. However, we won't bother with classes now. Let's get on to places and events."

West Coast Correspondent.

COLONEL GREEN RACE AT MIAMI

The Colonel Green trophy race, one of the big events of the year for outboard racers, will be staged during the Miami Beach Regatta, March 25-26. The race will be open for Division I and Division II drivers only—something which will sorely disappoint those drivers who have been racing for cash prizes in Florida this winter. There will, however, be several events open to Division III drivers during the regatta for which cash prizes will be offered.

BILL FREY, RACING DRIVER, ON NEWS STAFF

William E. (Bill) Frey, one of the nation's outstanding outboard race pilots, has been added to the staff of *The Johnson Motor News* and *Water Motoring* in the capacity of Racing Editor.

Bill Frey needs no introduction to the outboard world. He has been driving speed boats for 14 years. In outboard racing he has won 61 first places out of 75 starts. He has never placed less than fourth in any race. Probably his most significant achievement was the winning of the famous Peoria 200 Mile Outboard Marathon on July 4, 1929.

In his new capacity Mr. Frey will serve both dealers and the public. He will conduct a regular department in both *The News* and *Water Motoring* which will serve both dealers and the public. He will answer any and all questions asked by dealers or individuals. In short, he is a national authority on outboard racing who will spend his entire time serving the public through the medium of the Johnson dealer organization.

To dealers in particular, Mr. Frey will be of great help in aiding them plan races and regattas and helping them derive the greatest benefits therefrom.

Further information on Mr. Frey and his work will be given in future issues of *The News*. In the meantime, if dealers are anxious for information on any phase of racing, Mr. Frey will be glad to have them write him at once.

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Distributors for:
DODGE RUNABOUTS
LYMAN *and* PORTEUS OUTBOARD BOATS
LUDINGTON INBOARD & OUTBOARD BOATS
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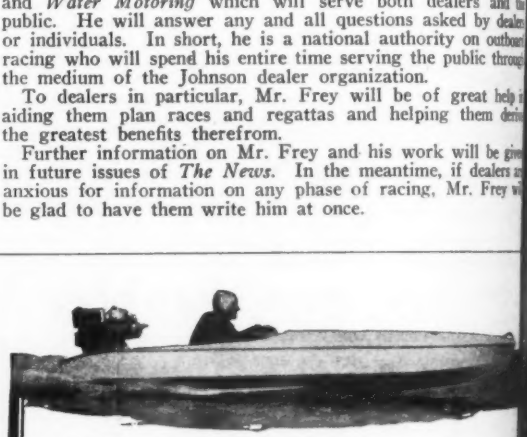

FOR MAXIMUM SPEED!
Solely on their performance in the past, PENN YAN racing craft are the largest selling outboard racing boats in the world . . . and the 1930 fleet will be still faster—still more seaworthy—still more capable of reeling off mile after mile of better performance than is possible with any other boat of similar size and power. Our new folder is ready . . . write for it today.
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18 WATER ST., PENN YAN, N. Y.
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Advertising index will be found on 3rd last page.

OUTBOARD NOTES

BACK UP THE NEW RULES

(An Editorial from Johnson Motor News)

Since the new 1930 Outboard Racing Rules were adopted a few months ago there has been a general hubbub and squabble all over the country. Many individuals and dealers have written *The News* asking for an explanation of these rules and why they were made as they were. This editorial is written in response to these requests.

The two high points of dissension are: one, the rearrangement of drivers' racing divisions and the subsequent withdrawal of cash prizes in Division II and the placing of all dealers' drivers and employees as well as cash prize drivers in Division III; two the placing of certain weight limits on boats in various racing classes.

These rules, it might be first said, were formulated by the National Outboard Racing Commission, a body of five men who are entirely unprejudiced in their views and who have consented to make up the Commission purely out of their interest in the sport. It was this tremendous interest in the sport and their desire to improve it that caused them to inaugurate the new rules.

The purpose of the first rule (the elimination of cash prizes in Division II and the placing of all cash prize drivers in Division III) was to encourage more people to enter the sport. It is a well known fact that last year many promising drivers withdrew from racing because they knew they did not have a chance to compete with veteran, cash prize drivers. Under the new rules they will now be able to compete in their own class and not be bothered with Division III drivers.

The boat weight limitations rule was adopted as a measure of safety. In the past several years, light craft manned even by experienced drivers have been pounded to pieces in rough waters, and there has been a certain danger element which the Commission felt could be eliminated without reducing the thrill on the part of either pilots or spectators. Accordingly, definite boat weights were established to take care of this.

The new rules are unquestionably of great benefit to all Johnson dealers. True enough, the dealer will not be able to race himself or have his own men race in Divisions I or II as last year, but he can still race in Division III and secure the advertising and publicity for his business as he always has. In addition to this he is going to benefit in new business from the hundreds of amateur drivers who are going to take up the sport this year, now that they know they can race and not be molested by outside drivers. Furthermore, a good deal of the public criticism against outboard racing, because of the danger element, will be eliminated with the new boat limitations rules. This one rule alone is bound to create an even greater public acceptance in the sport.

Although the new 1930 rules were not designed for the benefit of the outboard dealer, they most certainly offer him untold new advantages to secure business. Sufficient to repeat therefore the homely adage, "Don't Bite the Hand That's Feeding You."

OUTBOARD RULES DISCUSSION ENDED

An unfortunate misunderstanding of the new rules which have been drafted for 1930 outboard motor racing, effective January 1, has caused no little comment and some dissension in certain parts of the country. This unfavorable criticism was supposed to have led to a mass meeting of protest to be held during the course of the Motor Boat Show in New York. Copies of the new rules were distributed by Secretary Hoehn of the National Outboard Association at the Show, but the expected mass meeting failed to materialize. One meeting did produce an attendance of six persons and an adjourned meeting at a later date attracted about eighteen or twenty. At this meeting a committee of seven was chosen to confer with the National Commissioners present at the Show. The conference which this led to began at eleven o'clock on the night of January 23 and lasted until 3:15 the following morning. Instead of presenting protests, the committee of seven questioned Commissioners Chapman, Griffith and Hoehn, who interpreted the rules for them and explained the reasons for the manner in which they had been drafted. Following this explanation the committee was unable to agree upon any present any further objection and accordingly, the session was brought to a close. The results of this meeting would seem to indicate that the commissioners had drawn up a satisfactory code of rules and further, that it will take a number of races to finally establish any serious defects. Several prominent racing and motor boat men from various parts of the country made statements to the effect that the new racing rules were entirely satisfactory in the territories which they represented.

(*Continued on page* 240)

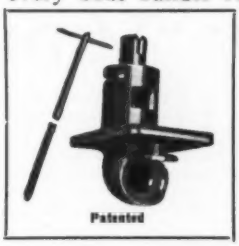
Its Big Demand

Proves It a Necessity

The tremendously growing demand among boat owners for the

St. Clair *Automatic* Self Bailer

and the outstanding boat builders, who are installing it, conclusively prove its merit. ***It is more than a luxury; it is a necessity;*** every boat builder realizes this.



The St. Clair Self-Bailer is the most modern, practical bilge-draining device made. Automatic, positive, dependable. Made of high-grade bronze. Designed for cruisers, outboards, every type of boat. ***Write for literature.***

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1930

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As Fast and Faster Than 1929

More Seaworthy, Rigid and Smooth in Action

ELSINORE Standard built hulls made thirty-one *Official Records* during 1929, including the National championship of America and Germany, two European records and two International or World's records; also in speed trials, 49.34 M.P.H., the fastest *official* record ever made by an Outboard. One Elsinore hull won sixty-seven trophies, which is another World's record.
It costs no more to drive an Elsinore-built record-breaker!

Send for particulars

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FAYBOW "MIDDY"

An All Mahogany Outboard for the Family

HERE'S a boat you will be proud to own. It is the finest family outboard runabout on the market. A safe, seaworthy and sturdy sixteen-footer, whose construction embodies the best practices used in building the highest priced runabouts. All mahogany, brass screw and copper fastened and plugged.

Beautifully upholstered seats with lazy backs, seating capacity for six to eight, handsomely finished and equipped with the finest hardware, the FAYBOW MIDDY stands in a class by itself. Speeds up to 34 miles per hour.

The same hull as the Middy is now available in a lower-priced model. Ask us about it.

COMING!

Watch for important announcement on new FAYBOW 18-foot inboard runabout powered with 40 H.P. Lycoming engine. Deliveries this spring.

Write today for advance details

FAYBOW "MYSTERY"—A *Fast Racer*

A seaworthy racing craft and winner of many important races, including Finger Lakes Outboard Marathon. Two models: B and C class (weight 150 lbs.), and D and E class (weight 190 lbs.)

Write today for illustrated literature

FAYBOW BOATS, INC., GENEVA, NEW YORK

OUTBOARD NOTES

(*Continued from page 239*)

OCEAN-GOING OUTBOARDS

Following the Crandall Craft policy of thoroughly testing each type of boat before making it a stock model, the new 15½-foot Crandall Craft ocean-going runabout has been given most exhaustive tests of every description.

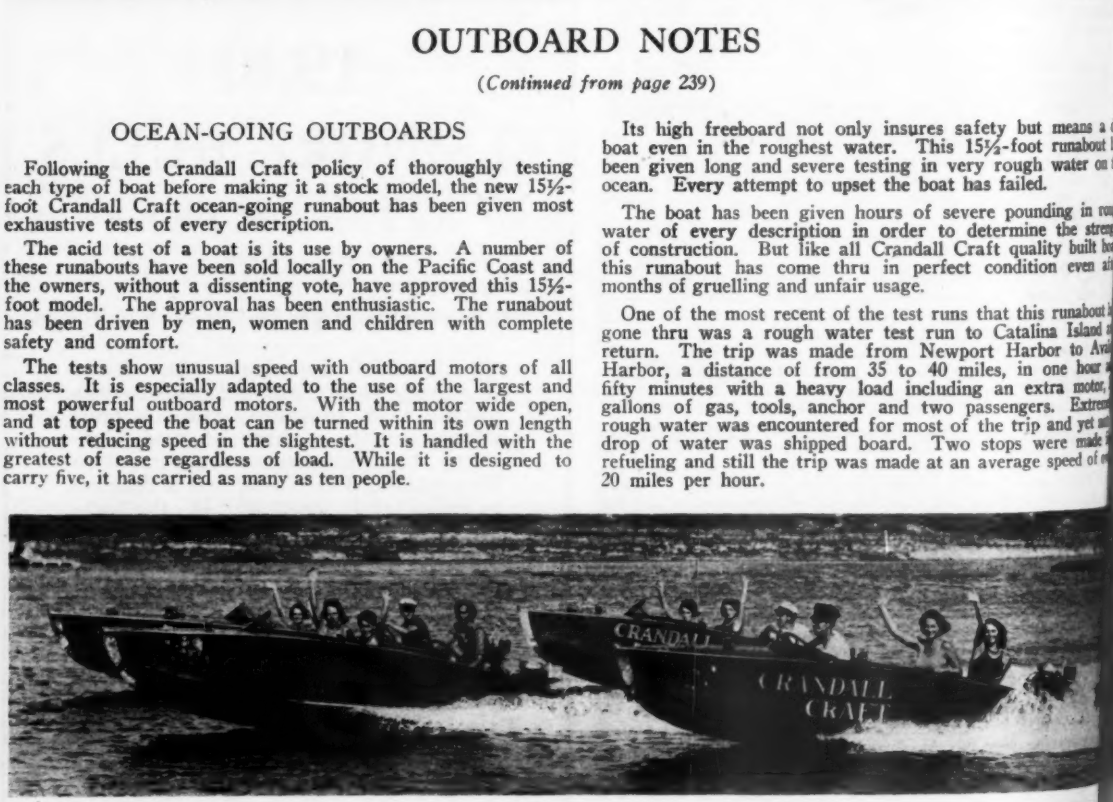
The acid test of a boat is its use by owners. A number of these runabouts have been sold locally on the Pacific Coast and the owners, without a dissenting vote, have approved this 15½-foot model. The approval has been enthusiastic. The runabout has been driven by men, women and children with complete safety and comfort.

The tests show unusual speed with outboard motors of all classes. It is especially adapted to the use of the largest and most powerful outboard motors. With the motor wide open, and at top speed the boat can be turned within its own length without reducing speed in the slightest. It is handled with the greatest of ease regardless of load. While it is designed to carry five, it has carried as many as ten people.

Its high freeboard not only insures safety but means a d boat even in the roughest water. This 15½-foot runabout h been given long and severe testing in very rough water on t ocean. Every attempt to upset the boat has failed.

The boat has been given hours of severe pounding in ro water of every description in order to determine the streng of construction. But like all Crandall Craft quality built bo this runabout has come thru in perfect condition even af months of gruelling and unfair usage.

One of the most recent of the test runs that this runabout h gone thru was a rough water test run to Catalina Island a return. The trip was made from Newport Harbor to Ava Harbor, a distance of from 35 to 40 miles, in one hour a fifty minutes with a heavy load including an extra motor, gallons of gas, tools, anchor and two passengers. Extrem rough water was encountered for most of the trip and yet no drop of water was shipped board. Two stops were made f refueling and still the trip was made at an average speed of o 20 miles per hour.



A group of the new 15½-foot Crandall ocean-going runabouts

MoToR BoatinG's Ideal Series

Volume X

The Outboard Motor Boat Book

Plans, Specifications and Building Instructions for Over 30 Craft of Various Types and Sizes Suitable for Powering with Outboard Motors

THIS is the book which everyone has been waiting for. The scope of the craft, plans, specifications and building instructions of which are printed in this volume, is very broad. Everything is included from the smallest rowing dinghy suitable for a Class A Outboard Motor up to the fastest Class C racing hydroplanes. Plans of some of the outboard racing boats which have established world's records are included. All of the boats are easy for the amateur or novice to build. If you wish to use the boat on the seaboard or inland waters or on some lake or smaller body of water you will find a design which is suitable. If you are partial to sail and use the outboard as an auxiliary, to get home with should the wind fail, you will find a number of designs of these boats, too. The plans and designs are particularly clear and easy to understand and no previous knowledge of boat building is necessary to turn out a successful boat. You should not fail to have a copy of this book.

THE CONTENTS OF VOLUME X

RINKY-DINK, A 7-FOOT PRAM
A useful little dinghy for carrying one or two persons between the shore and the larger boat.

PIRATE, A MODEL SLOOP
A complete design for constructing an excellent little model sailing sloop which can compete in model races.

SKIPPER, AN OUTBOARD PRAM
An easily built little flat bottom speedster suitable for outboard engines in the smaller sizes, which will produce speeds up to about thirty miles.

HANDY-ANDY, A SAILING DINGHY
A simple little round bottom design fitted with a single sail which will furnish ideal sport for the skipper who is spending spare time while his larger vessel is at anchor.

JAN, A SAILING SKIFF
A ten-foot flat bottom design which will serve equally well as a dinghy, sailboat and outboard engine tender.

CARYME, A UTILITY DINK
A useful little flat bottom dinghy which is easy to build and which will carry from three to four persons.

APPLE SAUCE, A FAST LITTLE SPEEDSTER
A simple little design for a fast outboard racer, which will do over thirty miles per hour with a suitable engine.

TAKAPART, A FOLDING PUNT
An original design for a small boat which is easily portable. Made in three sections which fit one inside the other so that it can be carried on an automobile.

ANABELLE, A 10-FOOT DINGHY
An excellent design for a 10-foot row boat arranged to carry three or four people and which can be used with any of the smaller outboard engines as a boat tender.

NYMPH, A 10-FOOT SAILING DINGHY
An attractive little boat fitted with a large sail and center board which will enable it to sail very nicely and which is also arranged to handle an outboard engine.

A 12-FOOT DINGHY
A first class design for a slightly larger outboard engine tender capable of carrying four persons.

JAZZ BUG, 12-FOOT HYDROPLANE
A fast little hydroplane which will handle engines of class B and with which it should do thirty miles.

SMARTY, A UTILITY BOAT
A 14-foot flat bottom dinghy arranged to handle under sail or under power of an outboard engine. Should be able to carry at least six people.

BUSTER, A 12-FOOT SAILING DINGHY
A round bottom dinghy of somewhat larger size, arranged for both sail and outboard engines.

SNAPPER, A SAILING DINGHY
A smart little round bottom tender, which can be used for much useful service in pleasure or work.

GANNET, A COMBINATION DINGHY
A roomy round bottom sailing skiff with a dagger type centerboard and a large main sail. Will handle nicely under sail and can be used with an outboard engine also.

GREEN DIAMOND, A FAST OUTBOARD
A 13-foot V-bottom hydroplane which has performed well in competition. It is designed for the modern fast outboard engine and should do 35 miles per hour quite easily.

DANCER, A 12-FOOT DINGHY
An inexpensive little boat designed particularly as a substantial flat bottom row boat for tender and ferry service.

WHIZ, A BABY HYDROPLANE
A sporty little speedster designed particularly for amateur construction arranged for use with an inboard engine of 20 h.p. with which it will do 30 m.p.h.

BABY STEPPER, A 14-FOOT OUTBOARD PLANE
A well tried and proven little design for a speedy outboard engine racing boat. Will handle engines up to class C with which the highest speeds will be secured.

SCANDAL, AN OUTBOARD MOTOR BOAT
A flat bottom dinghy 14 feet in length which will be suitable for tender service and similar work.

PIXIE, A V-BOTTOM ROW BOAT
A very able design for a large roomy row boat, capable of carrying a large load in passengers or baggage.

NONPAREIL, AN OUTBOARD ENGINE CRAFT
A design generally similar to that of Pixie but decked over for the greater part of its length so that it is much more sea-worthy and able.

MARYBELLE, A 14-FOOT RUNABOUT
An excellent little design for a useful little runabout, designed to be driven by an engine of about 10 h.p. with which it will perform very well.

SUE, A MOTOR SKIFF
A broad beamy 15-foot motor skiff arranged for an inboard engine of 5 to 6 h.p. With this it will do 6 to 7 miles per hour and will carry a very heavy load.

EDITH, A HAND 15-FOOTER
A V-bottom design for an attractive little runabout arranged with a small engine in the stern and passenger space forward.

TOTO, AN OUTBOARD RUNABOUT
An inexpensive and easily built 16-foot runabout designed particularly for the modern outboard engine. An able little craft which will carry five persons comfortably.

FLATTIE, A 16-FOOT UTILITY BOAT
A simple little flat bottom skiff designed for a small single cylinder engine, practical for many kinds of service.

WHIZ, AN OUTBOARD SPEEDSTER
A 16-foot stepless outboard speedster which is easy to build and fast enough for any one who does not care for extreme high speeds.

TRANSCO, AN OUTBOARD RUNABOUT
A sturdy and substantial 16-foot boat, built with lapstrake planking on a round bottom design. This boat will make a very able job for long cruises.

SEA SHELL, A SERVICEABLE BOAT
An excellent design for a 17-foot round bottom boat, suitable for rowing, sailing, or an outboard engine.

CANVAS-BACK, A CANVAS-COVERED CANOE
This design follows the typical canoe style of construction and has a square stern which adapts it to the use of an outboard engine. The boat is 17 feet in length and has a beam of 3½ feet.

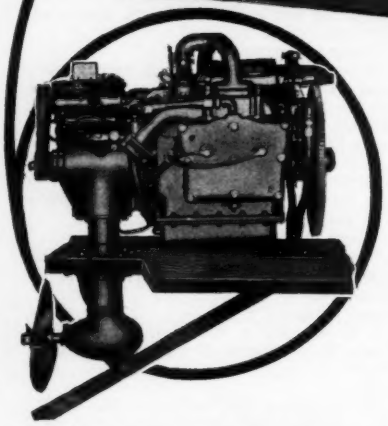
GOZO, A PETITE SLOOP
A pretty little design for a 16-foot auxiliary sloop arranged for a small inboard engine. The cabin arrangement provides berths for two persons and this little boat will make an excellent cruiser for the young fellows.

Price of the Outboard Motor Boat Book, Volume X, Ideal Series $3.00

Foreign Postage 50 Cents Extra

MoToR BoatinG, FIFTY SEVENTH ST. AT EIGHTH AVE., NEW YORK, N. Y.

Power Plant in Stern of A.C.F. Wason Boats



Has Many Distinctive Advantages—

The demand of the boating public for years has at last been met. Brill engineers have placed the power plant in the stern where boat enthusiasts agree "it logically belongs."

At the Show this feature won instant approval for Wason Boats. The reasons are obvious. All machinery is concentrated in one place in the most undesirable part of the boat for passengers; more attractive and spacious passenger accommodations are permitted without interference by a conventional engine cockpit amidship. Noise and fumes trail aft instead of frequenting the passenger spaces.

With a specially developed right angle drive the stuffing box is eliminated and a watertight bulkhead provided between the engine compartment and the boat proper. Furthermore, with the propeller shaft parallel to the direction of the boat a higher propeller efficiency is obtained.

Possible by Development of Brill New Type Right Angle Drive.

The importance of this new development is readily apparent. Its resultant advantages are numerous.

Horizontal propeller shaft is directly driven through bevel gears at top and bottom of vertical shaft. Forward and reverse is accomplished through sliding clutch on engine main shaft.

The Brill "4" horizontal engine illustrated, which develops 40 H.P. at 3,000 R.P.M., with this bevel gear drive furnishes the propelling force of all Wason 18 Inboard Boats.

—Wason Boats—Inboard and Outboard—

Built in Springfield, Mass. at The WASON PLANT of—

The J. G. BRILL COMPANY

Sales Headquarters Philadelphia

Advertising index will be found on 3rd last page.

MoToR BoatinG's Ideal Series

Volume I

Designs of Ideal Motor Boats and How to Design a Motor Boat

THIS volume describes in detail how to design a motor boat. It also contains complete plans for 30 Cruisers, Runabouts and Auxiliaries. The plans include lines, table of offsets, interior plans, profiles, construction details, etc. There is no other book published at the present time which describes in everyday language the details of designing a boat according to your own tastes. The plans of Ideal Cruisers, Runabouts and Auxiliaries are complete in every particular. They include the best of the plans published in MoToR BoatinG during the past several years. The plans include boats of from 20 feet in length up to 60 feet. The drawings are all to scale and large size.

THE CONTENTS OF VOLUME I

How to Design a Motor Boat
An easily understood discussion of the elements of motor boat design. This chapter covers the fundamentals in a logical way, describing first how to properly start the design, the laying out of the mid-ship section and the drawing of water lines, sheer lines, daigonals and buttock lines. The determination of weights and trim is carefully explained and a section is devoted to the problem of designing to a given displacement. The author's idea throughout has been to present the subject in a non-technical manner for the benefit of those who have no specialized knowledge of the subject.

Hike You, a 20-Foot Skimmer
Complete specifications and instructions for building an attractive V-bottom displacement runabout capable of 28 or 30 miles per hour.

Goblin, a 20-Footer
An easily built little 25-mile water runabout which will bring to the owner the joy of motoring on the water.

Panther, a 20-Foot Hydroplane
Panther is a V-bottom hydroplane model with speed possibilities of about 40 miles per hour with a four cylindered 100 horsepower motor.

Magnet, a 21-Footer
A handy little runabout of sturdy construction designed to meet the requirement for a general purpose boat rather than a purely high speed creation.

America, a 21-Foot Cruising Runabout
The ideal boat which combines the speed of a fast runabout wtih comfortable accommodations and substantial construction to adapt it to week-end cruising and camping trips. Just the type for two or three persons for summer cruising.

Curlew, a 22-Footer for Open Waters
Curlew is the type of runabout which will appeal to the man who does not care to restrict his boating to protected waters. She is a round bottotn type and easily obtains a speed of 16 miles per hour.

Sandpiper, a 24-Foot V-Bottom
Sandpiper is a 24-foot V-bottom boat well suited to use in open waters. With its abundant floor space it makes a very practical boat for knockabout service.

L'Allegro, a 25-Foot V-Bottom Ship
L'Allegro is one of those fast and trimly designed runabouts which secures speed and comfort without the sacrifice of sea-worthiness in a heavy sea or dryness in a bad chop. A speed of 20 miles per hour is provided.

Tuna, a 27-Foot Shallow-Draft V-Bottom Craft
A craft of easy draft which has no difficulty in navigating shallow bays and exploring about in coves and rivers. At the same time she is an able craft in deep water and dry as well in choppy seas.

Zora, a 28-Foot Round-Bottom Boat
A 28-footer intended for use as an all-around boat for river and bay work, with an abundance of room and large cruising radius.

Trident, a 24½-Foot V-Bottom Cruiser
A well proportioned cruiser, 24½ feet in length, 6 feet 3 inches beam and 2 feet 1 inch draft. Accommodations are provided for two or three people on week-end trips and she makes an ideal craft for fishing and day sailing as well.

Cygnet, a 25-Foot Cruiser with Trunk Cabin
An honest to goodness cruiser for two people on a water-line length of 25 feet. Cygnet is an able raised deck boat which appeals at once to the eye.

Halcyon, a 28-Footer That's Different
Halcyon is an interesting trunk cabin design which provides a comfortable cruising boat with plenty of accommodations on a comparatively short length.

Flashlight, a 30-Foot V-Bottom
An easily constructed 30-footer of V-bottom design with a raised deck of racy lines and equipped for convenient one-man control.

Dawn, a Double-Cabin Bridge-Deck Cruiser
Dawn measures 32 feet in length and has a beam of 8 feet 6 inches. The double cabin arrangement supplies comfortable sleeping quarters for a party of four in separate state rooms with plenty of space left for all necessary accessories. Dawn will cruise comfortably at approximatey 10 miles an hour.

Sunray, a 36-Foot Double-Cabin Cruiser
Sunray is a very practical and sensible type of double-cabin cruiser which will handle a cruising party of four very conveniently on extended trips.

Spook, a 36-Footer with Unusual Accommodations
Spook is an attractive double cabin cruiser which departs somewhat from customary practice, and secures at the same time a very clean-lined and able cruising boat.

Ruth, a 38½-Foot Double-Cabin Cruiser
Ruth is one of those real cruising auxiliaries which is able to go anywhere in any kind of weather. She is a double-ender, raised deck fore and aft with cockpit amidships and equipped with auxiliary sails, ketch rigged.

Jerry, a 40-Footer with Small Sail
While the sail plan calls for a rig of moderate area, Jerry will foot along very nciely in a good breeze. A long low raised deck makes Jerry a most attractive looking ship and gives abundant space for cruising accommodations.

Penguin II, a 20-Foot Yawl with 10 H. P.
In Penguin II, we have another of those 50-50 combinations which is the answer to the demand for an ideal cruising boat. Penguin is a one-man boat with complete accommodations for cruising.

Drift, a 20-Foot Sloop
For those who prefer the sloop rig with a small cabin for protection from the weather and an engine to help out when the breeze is light, Drift should be particularly appealing.

Victory, a 21-Foot Catboat
Victory is a handy little shallow draft cat boat of V-bottom construction with a small engine for auxiliary power. An excellent boat for two persons on short cruises.

Bonita, a 25-Foot Ketch
Bonita is an auxiliary ketch which is intended principally for rough water cruising under sail. For short cruising or for day pleasure or fishing trips in open water, Bonita's design is ideal.

Volante, a 25-Foot Waterline Yawl
A boat of unusually strong construction and one which will handle well under all conditions. She is fitted with two bunks and other cruising accommodations, and carries a small motor for auxiliary power.

White Cap, a 26-Foot Sloop
White Cap's lines are those of the New England dory glorified, with a bold sheer, plenty of freeboard and a neat low trunk cabin amidships.

Little Pal, a 23-Foot Catboat
Little Pal is a handy little boat with catboat rig. A low trunk cabin of considerable length is arranged amidships in which plenty of comfort will be found for a couple of people.

Gob, a 28-Foot V-Bottom Auxiliary Motor Boat
An especially fine auxiliary having a surprising amount of accommodations and elbow room. She is of good, sound V-bottom constructoin and makes better than 10 miles an hour.

Carina III, a 30-Foot Yawl
Carina III is a 30-footer that handles to perfection under all conditions and as a singlehander is a most practical boat. A low house amidships provides a great deal of comfort in bad weather as well as many cruising conveniences.

Chester, a 35-Foot Yawl
Chester is designed primarily as an able and sea-worthy craft, staunch enough to withstand any blow that she might encounter. All in all Chester is a very wholesome and sea-worthy little craft.

Josephine, a 35-Foot V-Bottom Craft with 15 H. P.
An attractive boat designed primarily to be a good sailing vessel. Beyond that she has exceptionally complete appointments and is a husky craft throughout.

Indrashama, a 35-Foot Schooner
Indrashama is a double-ender and heavily constructed. An excellent boat in bad weather and able to stay at sea in any kind of a blow.

Pirate, a 60-Foot Ketch
Pirate is ketch rigged with adequate sail area to propel her at a good clip and has in addition a 40 horsepower motor capable of driving the boat at 8 miles an hour.

Price of Designs of Ideal Motor Boats, and How to Design a Motor Boat, Vol. I.....$2.00

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MoToR BoatinG, FIFTY SEVENTH ST. AT EIGHTH AVE., New York, N. Y.

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Recommended For All Types of Boats

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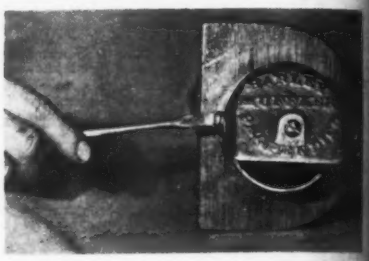

"INSIST ON A HARLEY MUFFLER IN YOUR NEW BOAT"

OUTBOARD NOTES

ALBANY-NEW YORK RACE, APRIL 26

(*Continued from page 240*)

The third annual Albany-New York Outboard Race is scheduled for Saturday, April 26, according to an announcement made by John W. Griffin, General Chairman of the race. The 133-mile event, which last year drew an entry list of 130 participants, will be run on one day only, and is held under the auspices of the Middle Atlantic Outboard Association, and made possible through the co-operation of the Albany Yacht Club, which has again donated its facilities at the starting line.

The terms and conditions of this year's race will be substantially the same as a year ago, according to Mr. Griffin. The list of awards, even greater than in the past two years, is expected to send this year's entry list soaring well over the 150 mark. The outstanding difference in the race this year is that a separate class has been established for the new type of junior runabout. While full details have not yet been settled for this class, it will probably be limited to inboard boats with motors rated at not more than 55 h.p.

As in the past two years, the principal prize is the Haynes Griffith $500 cash award to the driver making the fastest time down the 133-mile course. This award is open to drivers racing in Division III, regardless of whether the boat is inboard or outboard powered.

A new trophy offered by the Yacht Motor Club of France promises to result in keen competition in Divisions I and II. The trophy is a joint contribution of M. Jacques Menier and the Yacht Motor Club of France and was originally offered to the American Power Boat Association as a trophy for a marathon race in this country. At the suggestion of C. F. Chapman it was offered to the Middle Atlantic Outboard Association for the Albany-New York Marathon. The trophy is offered with the idea of stimulating international amity and rivalry in motor boating between drivers here and in France, where outboard boating is rapidly becoming a popular sport.

The trophy donated by the mmagazine *Yachting* will be up for competition again in this year's running of the Hudson River Classic. The terms and conditions of the Yachting trophy are as yet undecided, but it is understood that serious consideration is being given to awarding it as a prize in the new division

vice as well as sell Standard Diesel and gasoline engines.

A BETTER LIFE-PRESERVER SUIT

A new garment that seems destined to create a great deal of interest among the boating fraternity, especially to those interested in outboards and speed boats, is Ute Buoy, the new washable life preserver suit that is manufactured by the Utility Garment Corporation of 313 Arch Street, Philadelphia, Pa.

This new suit, made of white herringbone drill, a sturdy cotton cloth, is a combination coverall and life preserver. The cloth has been pre-shrunk to reduce the amount of shrinkage and washing to a minimum. It is made in a one-piece style with Hookless Talon Fastener all the way down front. There are two compartments on each side of the breast and one large compartment on the back, divided into eight sections. In each section is a vulcanized rubber tube about fourteen inches long filled with finest quality Kapok, which is more buoyant than cork. These tubes are removable and the compartment is covered with a flap which closes with clasps. The fastener, clasps and buttons on sleeves are all rust proof. The compartments are so constructed as to give wearer sufficient freedom of movement.

There are several important features which make Ute-Buoy an outstanding suit. In going overboard, the kapok in this suit does not come in contact with the water because it is sealed inside the rubber tubes and eliminates any saturation point. The suit itself, of course, is easily dried out. For laundering purposes the tubes are easily removed and then inserted. The wearer at all times can wear the suit as both a work garment and as a life preserver suit.

The suit is well made, being triple needle stitched throughout and the important seams are reinforced with bar-tacks. There are two back pockets, buttons at the sleeves and neck.

STANDARD MOTOR NORFOLK REPRESENTATIVE

Harry Waite is now representing the Standard Motor Construction Company of Jersey City, N. J., in Norfolk, Va. His address is 305 West Indian River Road, Barkley (Norfolk), Va. Mr. Waite is an experienced Diesel engineer who has operated engines in both pleasure and commercial boats of various sizes, has had considerable sales experience, and has also worked in the Standard factory, so that he is peculiarly well fitted to render service as well as sell Standard Diesel and gasoline engines.

Advertising index will be found on 3rd last page.